SOUTH-WESTERN

TRAINING FOR ORGANIZATIONS

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Preface

Introduction

This book underscores the notion that training is a crucial function in any organization. As a training professional, your job is to support your organization, and as a professional, you need to understand the needs of your particular industry, business, and personnel. You are a team player and a change agent. You are an adult educator as well as a savvy business person. You are a writer, teacher, coach, mentor, and administrator. You are versed in the role of technology in instruction and in administration. You are keenly aware of trends that affect the workplace—in your community, your organization, and in society at large. In short, you are an active, integral and vital part of your organization.

As a training professional you are increasingly involved in the personnel process: hiring, retaining, training, and rewarding. You may offer training to job applicants as part of an employee selection process. You provide training for new hires and long-timers at all levels of the organizational strata. You provide counseling and educational programs that help personnel grow in their careers. You encourage staff and management development activities. If organizational downsizing occurs, you develop job search strategies for those who leave and stress management programs for those who stay. As organizations adapt to new work processes, as organizational structures become flatter and less hierarchial, your role as a problem solver and facilitator becomes more vital. Also, as promotional opportunities expand and contract, you are involved in designing new reward structures that acknowledge individuals at all levels for what they know rather than who they manage.

Your many roles include needs assessor, instructional designer, instructor, evaluator, project manager. Your job demands, thus, are complex and varied. You need to learn theoretical foundations that explain sound training practices—problem solving strategies, adult learning theory, group behavior, and planned change.

But theory is difficult to comprehend without an understanding of the practices it explains. Therefore, you also need to be aware of good, experience-based training practices and how to use them.

Training for Organizations includes topics not typically covered in a "training" book. These topics include treating training as an innovation and techniques to ensure training success *before* implementation. We emphasize the practical and the theoretical in discussing needs assessment and evaluation strategies, and stress the art and science of writing a training proposal. We discuss the promises and limitations of technology on the delivery of learning experiences as well as on the administration of training departments. In short, we offer you an understanding of the many roles you will play in your training career and provide concrete experiences that can transfer not only to your first job or your current job but also to help you move up your future career ladder.

Overview

Training for Organizations is divided into six parts and twelve chapters. The parts and chapters are presented in a logical order, but each part can stand on its own. This means that you can start at your key point of interest and move toward topics and chapters as your interest expands.

Part One, "The Training Function," sets the stage for the entire book. In its prologue we describe the need for organizational training against a backdrop of societal trends and issues. Part One, in an attempt to translate trends and issues into practice, describes how the mission of a training department influences its structure and the services it provides, as well as the skill sets required of the training professional. Training itself is a continuum of activities, not only classroom instruction. With this in mind, in Part One we overview the *training cycle*. The training cycle can help you understand the training process—how assessment, design, implementation, and evaluation tasks are separate and distinct yet interrelated and interdependent. The training cycle serves as a framework for managing training projects as well as understanding this book.

Part Two, "Needs Assessment and Evaluation," consists of three chapters. The first chapter in this part emphasizes that training is done to address organizational needs or new opportunities. The best training solutions are based on a careful needs assessment that takes into account the organizational environment as well as the needs and abilities of individuals. The next chapter stresses that evaluation should be considered up-front in designing training programs, rather than as an afterthought or "it's nice to have, but hard to do, so we don't do it" philosophy. Linking the outcomes of the needs assessment with strategies to determine if those outcomes actually occurred is the focus of the chapter on evaluation. The concluding chapter in Part Two provides the practical how-to for these vital train-

ing roles. Research techniques related to designing and using selected methods—observations, interviews, questionnaires, and simple experiments—are discussed.

Part Three is "Instructional Design." In this Part's first chapter, the best of what we know about learning is reviewed: adult learning theory, cognitive science, and motivation theory. The next chapter shows how program design flows from needs assessment outcomes and is based on sound educational practices.

Both chapters in Part Four, "Training Delivery," discuss training delivery strategies and how their effectiveness can be evaluated. First, training delivery methods based upon live instruction are discussed. Methods are categorized by the nature of the group to be trained, and include "how to" deliver a lecture, use a case, conduct a role play, etc. The next chapter describes the many possibilities in mediated instruction. *Mediated* describes a situation in which instruction is delivered by some form of media rather than by a live instructor.

Part Five, "Additional Job Skills for Trainers (Tools of the Trade)," consists of three chapters that are all about creating an environment where learning solutions can flourish. To ensure that learning plans are well communicated, an outline guide is provided for writing a training proposal, and suggestions for developing oral presentation skills are offered. Administrative tasks, while not glamorous, are also crucial to training department success. To this end, the next chapter includes a description of course registration and scheduling systems, checklists for facility administration, and even a special learning module on developing training department budgets. To better appreciate the role of learning in all organizations, the final chapter of this Part overviews theoretical foundations for planned, systematic change efforts and techniques for facilitating group processes. It is suggested that the training professional can play the role of a change agent by working with others in the organization to ensure that new learning is assimilated into the organization.

Part Six, "Trends for the Future," gives you a glimpse into what's next for the training professional. In this Part, the trainer of the present is transformed into the trainer of the (not-so-far-away) future. This future-based scenario is designed to move you to think creatively beyond what currently *is* to what *can* and *may* be.

Features of this Book

- *Highlights.* Each chapter opens with highlights to help you focus on key points in the chapter.

- *Questions.* Each chapter closes with questions designed to reinforce key concepts and to provide a structure for chapter discussion.

- *Applications.* Each chapter includes suggestions for further research or practical activities that are intended to extend your thinking about training issues.
- *Additional Readings.* Each chapter concludes with a short list of recommended readings. A brief summary or annotation describing the recommended book or journal article is provided.
- *Appendices.* Appendices consist of lists of selected professional organizations and popular and scholarly journals that training professionals may find valuable.

Training for Organizations attempts to synthesize not only what we know about training and the management of the training function in organizations, but it is also an attempt to explain why some training practices succeed while others fail. Combined, we have a wide range and many years of experience as academics and practitioners. Our professional lives have been spent in teaching, researching, and consulting in the field of training. Our key purpose in writing this book is to share our enthusiasm about the future of this dynamic field and to attract the very best of our education and business professionals to training careers.

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Part One

The Training Function

Prologue to Part I

Companies in the United States spend more money annually on training than do all the public school systems in the country. No better commentary on the importance of organizational training exists than this $210 billion investment by American employers in informal and formal training.[1] However, this investment may not be enough; estimates are that the skills of 25 million workers must be upgraded by 40 percent for a modest economic growth of only 3 percent.[2] These figures are even more astounding when you consider that only 15,000 companies account for 90 percent of these training dollars. That means that most organizations do not offer *any* type of formalized training.[3]

Moreover, organizations that do offer training programs tend to concentrate on managers, technicians, and professionals, not the rank-and-file-workers, who make up 75 percent of American workers. These workers are increasingly challenged as their basic job skills are simply not sufficient to maintain jobs that require continually changing skill sets. This problem is so acute that a special report sponsored by the American Society for Training and Development has inspired federal legislation that would require all companies to invest at least 1 percent of their total payroll in training. Others suggest increasing this to a levy of 1.5 percent coupled with elected employee councils that would work with managers to determine the nature of their own training programs.[4] In short, training professionals are being forced to reassess their organizational role as one that responds to changing workforce demographics, changes in the global workplace, and changing job demands.

At the same time that unemployment rates remain high, companies are unable to find qualified workers for the positions that do exist. Companies, therefore, will need to work harder to keep their existing workforce and increase their productivity. Retention strategies based on the availability of training programs that provide mutual satisfaction for the organization *and* the individual are critical.

Organizations are also becoming less hierarchial—as work processes are reengineered to make better use of technical and human resources, the organizational chart is flattening. This means there are fewer mid-level managers within a more

fluid organization. The trainer's role in these efforts is multifold. Training professionals find themselves developing programs ranging from the very difficult task of changing the culture of the organization to teaching team development strategies to working on ways of rewarding individuals for what they know, rather than for who they manage.

Furthermore, the promise of technology in addressing the need for higher productivity and quality levels goes unfulfilled when the workforce at all levels cannot adapt to changing work procedures. The minimum skills once adequate to survive in the workplace for workers of all ages and levels are changing at a dizzying pace. Globalization is changing the very nature of work and its demands on the worker and the concept of life-long employment within one firm is no longer applicable. Experts predict that the average employee will change careers—not jobs—from five to seven times in his or her lifetime. Changing careers implies learning to do new things; moreover, it implies learning to do new things well.

As accountability for training program outcomes is increasingly the responsibility of training professionals, trainers are developing partnerships with line managers. Line managers are the individuals who are ultimately responsible for ensuring that "work" gets done and have the go/no-go say with regard to training program development. The term partner implies mutual goals as well as reliance and trust. Likewise, trainers are working closely with target training audiences themselves to ensure training programs that employees consider important and result in skills that are transferrable back to the workplace. Accountability mandates communication and good communication invariably results in training programs that are relevant and deemed important by organizational decision makers and the training population.

Thus, the ability to learn and *relearn* is as important as the specific skills any job training program can develop. Trainers who use only passive teaching techniques may find themselves out of a job. Trainers are increasingly accountable for not only classroom instruction, but also for the transfer of learning from the classroom to the workplace. Training, therefore, is a *business process,* not a one-time exercise. Yet despite the perceived need for a well-trained workforce, trainers must sometimes sell the concept of training to line managers who have not traditionally viewed training as a vital corporate resource.

Organizations are increasingly responding to and addressing these demands. Motorola, Inc., for example, has redefined its clientele to include not only its own employees, but its suppliers, customers, and even the local community. Motorola reports that for every $1 it spends on training, it gets $30 in productivity gains within three years.[5] Operating costs have been reduced by $3.3 billion by training workers to simplify processes and to reduce waste. Corning, Inc. mandates that all employees spend 5 percent of their time at work on training. Some of this training is in-house at Corning, and outside training is offered at a local community

college.[6] At least once a year, Federal Express requires that all couriers and customer service agents dial into an interactive, microcomputer-based program that tests their current job knowledge. The exam results are used to identify areas where workers need help and to prescribe remedial action.[7] These three examples illustrate how organizations find training solutions to address business problems.

Therefore, the responsibilities and opportunities in the training field are immense and dynamic for those who choose careers in this area. While the following chapter is not intended to address directly these important societal trends, it will address how these issues impact training decisions and practices. The needs of the organization always mirror those of the larger society within which it exists. Training professionals who can understand big-picture issues and who are well-versed in organizational theory, sound business practices, and the promises and limitations of technology are those most able to lead a training organization.

With a backdrop of these shifting demographics and changing workplace patterns, it is important to understand why training departments are structured the way they are. To this end, Chapter I, "Introduction to the Training Organization," describes the training organization, its range of philosophies, mission, roles, responsibilities, and structuring models. Chapter I also overviews the *training cycle*, the training process model that provides a basis for project management and serves as the framework for this book.

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1. Carnevale, Anthony P., Leila J. Gainer, and Janice Villet. *Training in America: The Organization and Strategic Role of Training*, San Francisco: Jossey-Bass, 1990, p. xi.

2. American Society for Training and Development. *Training America: Learning to Work for the 21st Century*, special report, 1989.

3. Caveat: The legislation being talked about by the early Clinton administration may change all these figures, especially the participation rate of companies in training their people.

4. Denis MacShane. "Lessons for Bosses and the Bossed," *The New York Times*, July 19, 1993, p. A15.

5. Henkoff, Ronald. "Companies That Train Best," *Fortune*, March 22, 1993, p. 62.

6. Ibid., p. 64.

7. Ibid.

Chapter One

Introduction to the Training Organization

Highlights

- Perspectives on training careers in the next decade.
- Examples of strategic, informational, and operational training.
- Philosophies and mission statements of training organizations.
- Models for structuring the training organization.
- Training cycle overview.

Putting Training Careers In Perspective

In *The Third Wave*,[1] Alvin Toffler divided history into three major eras, or waves. The first wave, from 8000 B.C. to 1750 A.D., was termed the agricultural revolution, and was based on farming as the world's primary occupation. In the second wave, from 1750 to 1955, the rise of industrial civilization and the industrial revolution, manufacturing became the main occupation and the developed world was engaged in or moving toward mass production. The third wave, which began in the mid-1950s, is sometimes referred to as the information age or the

information revolution and is based on the delivery of services. Important to note from Toffler's scheme is that all human society was profoundly transformed with each wave, and that the transition to the next wave was never easy.

Toffler's perspective is useful to the training professional of today and tomorrow. Sometimes in determining training goals, the training professional relies on methods and approaches appropriate for times long past. Sometimes in determining goals, or where one wants to go, the training professional may forget today's diversified workforce with its evolving job demands and its changing skills and knowledge. Sometimes the training professional may forget that today's society is enmeshed in an information revolution and the goal is not to train a workforce to adapt to *existing* jobs; rather the goal is to enable the workforce to adapt to *changing* jobs. Toffler's categories help training professionals understand the magnitude of these dramatic changes that affect all aspects of our society, including our organizational lives.

Applegate and Cash foresaw the impact of information technology on tomorrow's manager by describing downsized (fewer middle managers) and flattened organizational structures. They also suggested that workers will be more autonomous, and that the work environment itself will be more exciting. Moreover, job descriptions tied to narrowly defined tasks, they said, will become obsolete.[2] Individuals will need to be more responsive, faster at innovation, flexible, and highly trained. These individuals will be quality and service conscious.

The way to respond to the demands of change is to create a *learning organization*. In the learning organization, the organization itself learns not only from its former errors but also from its past successes. In the learning organization, the rewards for success are high and the risks of failure are low, thus encouraging people to try something new. In the learning organization, individuals are empowered to do their jobs well and creatively. "Organizations learn only through individuals who learn"[3] says author Peter Senge, who calls this empowerment "personal mastery." Individuals with this freedom are more committed to their jobs, take more initiative, and have a broader sense of responsibility in their work.

To create a learning organization mandates that business managers and training professionals work together for a common purpose. In a learning organization, training professionals and managers share accountability for training programs. The training professional is more than just the deliverer of training programs; the training professional is a full business partner, relying on a wide repertoire of skills including problem solving, mentoring, and coaching as well as skills related to being a professional educator.

This view of the future says that like the managers they support, the training professional needs a mix of skills to succeed in third-wave, learning organizations. Moreover, as a savvy business professional, he or she must examine existing training-department organizational models and training delivery strategies. In the

learning organization, the training professional is a technical and learning resource to be relied on by managers and individuals to ensure that organizational goals are met and the organization learns from its experiences.

This emphasis on change and effective use of resources means that training efforts must support organizational goals that are increasingly tied to seeing that problems and opportunities are addressed in new ways. The first section of this chapter presents this challenge to training professionals to take a more active role in the organization, tying training department goals to organizational goals. The next section helps put these organizational challenges into focus by providing perspectives on how the structure of a training department supports organizational aims and mirrors the training department's philosophy and mission. Best practices evolve when there is a match between organizational goals, the philosophy and mission of the training department, and the career development needs of the individual. This chapter also includes a listing and discussion of current and emerging roles for the training professional. Part of the discussion provides a perspective on the many interrelated yet distinct roles a training professional may be asked to play within his or her career. The training cycle, a problem-solving model for training project management as well as for the organization of this book, concludes this chapter. The training cycle depicts the four stages of training program development while emphasizing their interrelationships.

Integrating Training Goals With Organizational Goals

The three factors of production are land, labor, and capital. Enterprises structure their operations around making the most of these limited resources. In large organizations, a human resource (HR) department is charged with a set of staff functions such as: hiring (and firing), salary administration, benefits administration, union relations; and it usually includes the training function. Decisions that affect the existing or needed labor pool impact the entire organization, and the training professional plays a crucial role in ensuring that the organization has the workforce it needs.

Training resources, like all resources, are limited. The challenge is to use them wisely and to provide evidence of their value to the organization. While it is difficult to measure learning and its organizational impact, the premise is made that training programs that contribute to organizational goals have tangible outcomes of some sort. More sales, less turnover, higher production levels, improvements on attitude questionnaires, and the like may be linked to training efforts.

To make these links between organizational goals and training efforts, it is useful to consider training strategies as responding to one of three identified organizational thrusts: strategic, informational, and operational. While many training efforts transcend these categories, categorization can help describe the impact

of training efforts and thus establish the linkage from organizational goals to training activities.

Strategic Training

Strategic training means that training plans take into account long term organizational goals and objectives. Examples of these goals might include the development of new or better products; operating with fewer people; or expanding to a global market. Strategic training efforts are typically initiated by top management.

Author Jeanne Meister suggests that developing a work force with core competencies is strategic.[4] Core competencies are those knowledges, skills, abilities, and attitudes the organization has deemed critical to long-term success, such as creative thinking and problem solving; leadership and visioning; and self-development.[5] The development of core competencies not only contributes to organizational goals but also adds to personal mastery. Such core competencies become the foundation for specific job skills.

For another example of strategic training, assume that a large U.S. corporation is in the midst of expanding its business to include distributors in Mexico. In its global central office, workers must be relatively fluent in Spanish and should be knowledgeable about Mexico's history and culture. A training program to teach these language skills and cognitive skills could be considered strategic, as individuals' success in such a training program would be paramount to the organization's being successful in this new global environment.

Other strategic training efforts include total quality management (TQM) and re-engineering. Like the other examples of training efforts, these two concepts have a goal to transform the way an organization does business. TQM programs address issues such as satisfying the customer, involving everyone in problem solving, choosing distinctiveness, and ensuring that everyone in the organization is conscious of the desirability of doing work "right." Reengineering, a problem-solving approach to involving workers in decisions that impact work processes, is likewise a strategic training initiative. In TQM and reengineering programs, the training professional usually serves as a group facilitator, helping stakeholders solve workplace performance problems themselves.

In its role of supporting organizational goals, the training professional may be charged with providing training programs for its suppliers and for its customers. For example, Hart Schaffner & Marx (HSM), a manufacturer of fine menswear, trains its retail customers' sales staff. At HSM's training facilities, retail salespeople learn how a suit is made as well as how to sell it to their customers. "The overriding goal set [by HSM] was to create and expand a loyal customer base."[6] Such efforts address the very nature of an organization and are easily labeled *strategic* and thus appropriately linked to organizational goals.

Informational Training

Informational training is training based on the need to give the workforce information about the organization. The training department's role in informational training is very important, and includes—but goes well beyond—programs that describe the organization's benefits packages to new employees. Meister called this important orientation role that of developing corporate citizenship and creating a contextual reference for employees.[7] Developing corporate citizenship means developing training efforts that result in the employee knowing the organization's history, culture, traditions, and values. Creating a contextual reference means ensuring that employees understand big-picture issues related to the firm's products and services and its relationship to its competitors, suppliers, and customers. Thus, informational training efforts provide information that will empower the employee to be a contributing player in an organization whose mission, goals, and operating policies are understood.

Therefore, informational training efforts are usually not directly applicable to the trainee's specific job or task, but rather enhance the trainee's overall awareness and understanding of the firm and its product line. A workforce that knows and understands its organization and whose managers attempt to communicate the rationale for directions and policies is a workforce that is more likely to be able to contribute to a learning organization. Informational training efforts can be directly linked to the organizational goals that improve employee retention rates or raise employee job satisfaction. Orientation programs, thus, should be *ongoing* in nature—not one-shot events—to maintain open lines of communication.

Operational Training

Operational training efforts are those that relate to the day-to-day operations of an organization and are directly related to an employee's job. Successful operational training programs call for line managers and training professionals to work together at all stages of program development. Examples of operational training abound as this category of training includes new work methods and procedures, skills needed to use new technologies, or new skills required to upgrade to a new task/job. Every organization offers operational training of one type of another. Because this type of training is so vital to the ongoing day-to-day activities of an organization, linking operational training efforts to organizational goals is usually a simple and direct task.

Increasingly, operational training is seen as being built upon strategic and informational training efforts, rather than the other way around. This does not mean that operational training is less important than developing core competencies. Nothing is more important than ensuring that the work of the firm can be done. This building-block view means that training departments and managers are finding that they also need to develop their employees' core competencies as well as

their contextual framework. Increasingly, many job tasks cannot be done well without the trainee already having as a base skills labeled strategic.

To restate, it is not so critical to categorize each and every training program as strategic, informational, or operational as in reality much overlap exists. The value of these categories is to help put training efforts into perspective and to help describe how a specific training effort addresses the overall goals of the organization. Using the descriptive terms of strategic, informational, or operational can help make a clearer link from organizational goals to training practices.

Organizing the Training Function

It has been said that a training professional must be both a priest and a prophet. The former would provide good counsel to the individual employee; the latter would be able to predict market, technological, and organizational developments. As a counselor and a business strategist, the training professional works from inside the organization to ensure that the organization has a well trained and motivated workforce. To do this, it is important to have articulated a training philosophy and mission on which to build an operating structure for the training organization.

A Training Philosophy and Mission

A *philosophy* is a system of values. A *mission* is an activity that is to be carried out. A corporate philosophy for the training department originates at the executive level. Training departments are typically based on one or more of the following philosophies:[8]

1. To prepare employees to develop specific skills necessary to perform effectively in the current job assignments.
2. To build skills and impart knowledge that will make employees more effective in a variety of possible job roles.
3. To prepare employees to take on broader or more demanding job assignments in the future.
4. To help employees recognize and realize their full potential as human beings.

These philosophies are offered in order from the most concrete to the most abstract. Under the first philosophy, *preparing employees to develop specific skills to perform effectively their current job assignments*, training resources would be directed at operational training activities that impact worker behavior. Results would be measurable and affect the organization's outcomes and profits.

A training department takes on an *informational and strategic* role when its

philosophy is akin to numbers two and three above: *To build skills and impart knowledge that will make employees more effective in a variety of possible job roles;* and *to prepare employees to take on broader or more demanding job assignments in the future.* Ideally, training efforts within these roles are rewarding to both the organization and the employee. The most successful programs match what the organization needs with what employees want to learn.

An organization primarily espousing solely the fourth philosophy, *to help employees recognize and realize their full potential as human beings,* would have a mission similar to the nation's educational system. No training department should base itself on employee education to the exclusion of operational, informational, and strategic training. However, strategic training programs have added value to employees in that those skills contribute to personal mastery and are transferrable to any number of different jobs.

Given these philosophical definitions, this book will consider a training department's role to be concerned with a variety of strategic, informational, and/or operational learning outcomes. Moreover, assisting employees to achieve their potential is indeed a desirable outcome, and one that is increasingly important to keeping a skilled, knowledgeable workforce. A training department's *mission statement* is a much more concrete version of its philosophy.

The mission statement explains why a training department is organized in a certain way, what the staff does, and how services are delivered. Note that these specific activities set the stage for what the training department actually *does.* The mission statement typically falls under one or more of the following descriptions:

1. To establish a basic curriculum of programs and courses that management can access to ensure that employees can do their jobs.

2. To anticipate changing conditions (internal and external) and provide programs to help employees cope with these changes.

3. To provide expertise in analyzing performance problems and devise appropriate solutions.

4. To provide programs that will improve productivity.

5. To respond to requests from individual managers/supervisors for employee training and development.[9]

Figure I-1 is the mission statement of the Training, Education, and Development Department of NYNEX's Telecommunications Group. Note its strong connection to business goals, its workforce, and its customers.

The TE&D organization, as an integral part of the Telecommunications Group Team, designs and implements quality training, education and development services that support corporate and business unit objectives.

Its primary clients are Telecommunications sector employees but it also serves other NYNEX and Regional Bell Operating Company employees, as well as clients outside of the telecommunications industry.

By maintaining a strong customer focus, anticipating client needs and responding to client requests in a timely manner, it aims at providing a competitive edge for NYNEX while enabling employees to realize their highest potential.

Figure I-1 Training, education, and development mission statement: NYNEX

Models of Training Department Organization

Organizational charts are graphic illustrations of who reports to whom in an organization and the scope of their respective duties. Organizational charts in most large organizations are not static in nature; they are dynamic—constantly changing. As organizations evolve to becoming learning organizations, the organizational chart in some companies may change daily. Sometimes titles change; sometimes duties are shuffled among key players. Sometimes new people are hired; sometimes organizations are forced to downsize (a more positive term is "rightsize"). Sometimes organizational charts change to assign an individual more responsibility for a given project.

Training departments share the shifting, dynamic nature of today's organizations. A training department may be organized to do some or all of the following: needs assessments, program/course development; identification of internal and external consultants and learning materials; training delivery; and program evaluation. The training department structure itself can be considered either "mostly" a *faculty* (product) model or "mostly" a *client* (customer) model. Sometimes, too, the product and customer models converge to form a *matrix* model. Some large organizations are also adding a *corporate university* approach to addressing their mission. In reading descriptions of each of the following models, consider the philosophy and mission that a training department demonstrates when it uses a particular model.

Faculty Model of Training Department Organization

As Figure I-2 shows, the faculty model of structuring the training department is much like that of a college. A training director operates much like a dean, with a staff of experts, often referred to as consultants, who develop, update, and deliver instruction. Informational and operational training programs are kept

current and repeated on a scheduled basis for a wide range of audiences or custom-designed to meet the needs of a specific group on a particular subject. Examples include on-going new employee orientation programs, and workshops in SEC regulations, business communications, or presentation skills. Upgrading sales techniques or improving telephone behaviors are yet other examples. With the faculty model, subject matter experts, who are employees of the organization, are responsible for updating and delivering instruction.

A training department that is organized on the faculty model offers some real benefits. One advantage is the careful coverage of the topics they teach. Also, laying out training plans is considerably simplified: what will be taught and when it will be offered are defined primarily by the training staff capabilities and availability. This arrangement makes planning and control easy. Moreover, the faculty model—at least in the ideal—is an efficient use of staff, drawing precisely on the strengths of the instructors and ignoring their weaknesses.[10]

However, the faculty model has its limitations. By its very nature and organization, its use can result in ignoring content areas in which the trainers lack expertise. This means that a department of instructors may teach only part of the skills needed in the organization and may even teach skills the organization does not need at all. Another danger is that a department of teachers tends to focus evaluation on instruction, not whether specified skills were obtained or were useful on the job. In other words, the faculty model can put too much emphasis on what the faculty can do and not enough on what the organization needs.[11]

Client Model of Training Department Organization

With a customer or *client* approach to structure, as shown in Figure 1-3, an individual training professional might have responsibility for an entire subpopulation of an organization. In this illustration, the trainer (who may be called a consultant) would work with line managers to identify the skill/competency needs of a particular subgroup and ensure appropriate training programs. Often, this consultant can obtain training solutions (e.g., training programs) from outside training professionals (outsource) or from an internal training program development group. The emphasis in this model is on ensuring that the learning needs of a given functional department or group of individuals are addressed, with the training professional serving as a broker or consultant in meeting these needs.

A client model of organization results in built-in responsiveness to changing business needs. In this highly flexible model, needs assessment (discussed in the next chapter) can focus on business needs rather than training-staff capability, since the consultant does not necessarily have a personal investment in a particular subject being taught. The design and delivery of training can more easily focus on learners' needs and their learning styles without overt or covert influence by

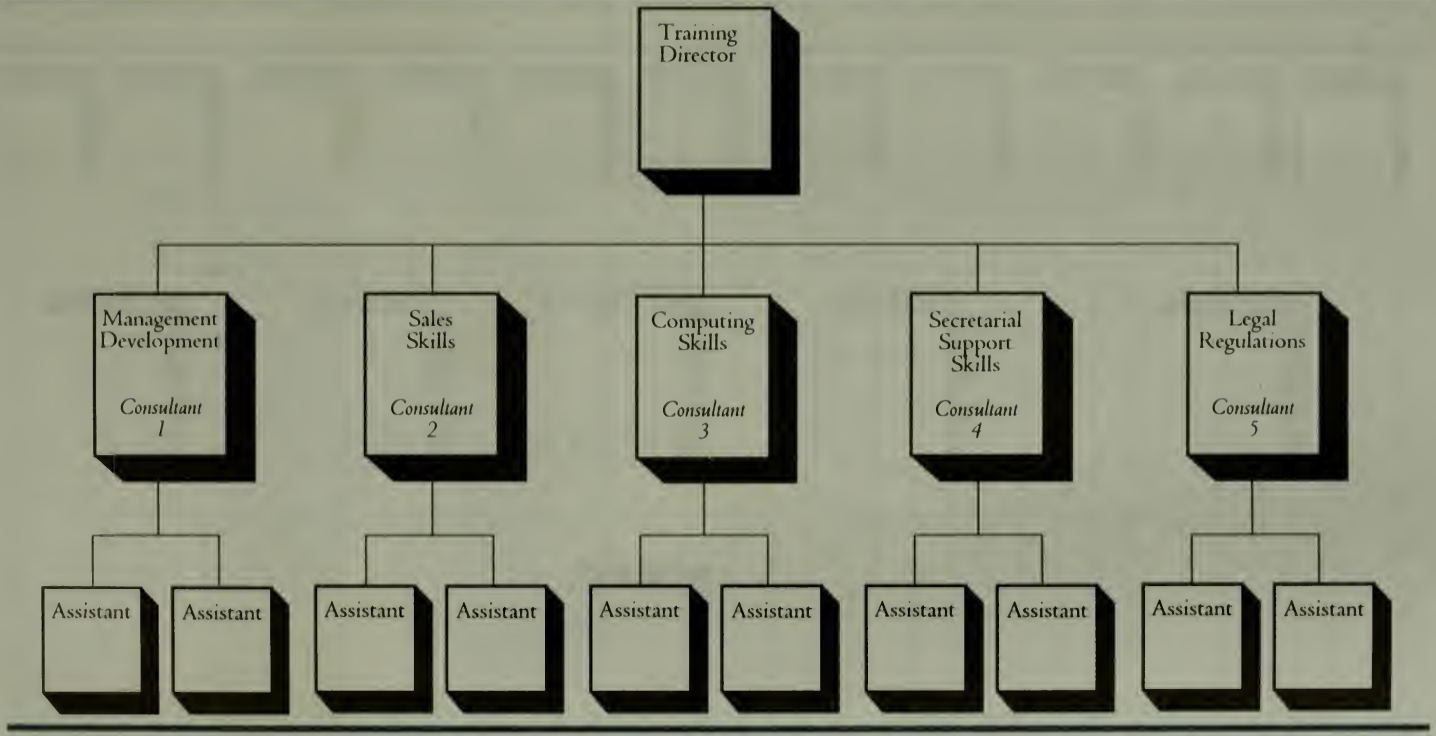

Figure 1-2 Faculty model of training department organization

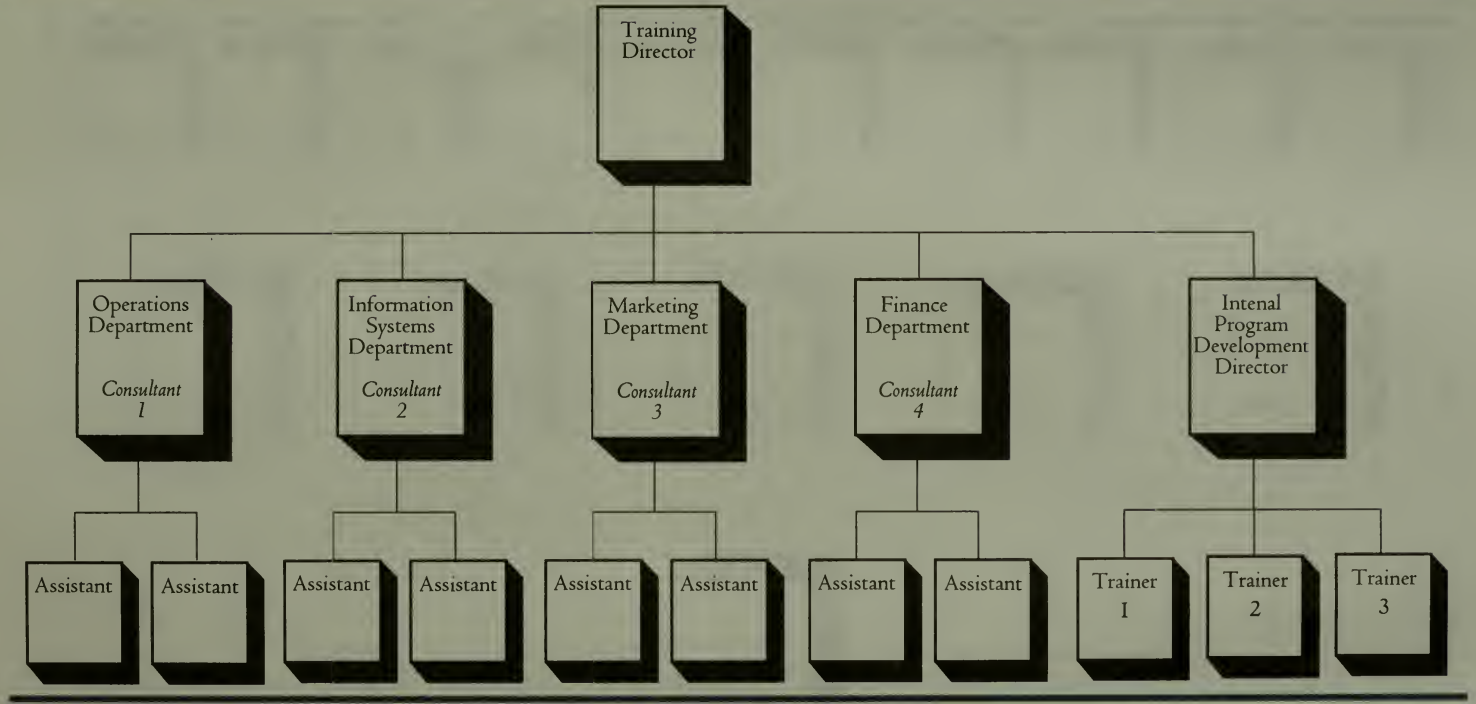

Figure 1-3 Client model of training department orgranization

teacher preferences. This is a significant benefit given the adult learner's need for individualized, self-motivated instruction.[12]

However, a training department operating in the client model is always in motion, always shifting, and always compensating for new emphases and directions. Planning is not easy in such an environment. In addition, training professionals who consider teaching as their primary job function find the model offers a less satisfying personal work experience.

Matrix Model of Training Department Organization

Training professionals who are considered part of the training staff in a *matrix* structure report to both a line manager and a training department director. In other words, the training professional has the duties of a faculty expert *and* a client representative. This situation is depicted in Figure I-4, which shows the consultant as a subject matter expert within a centralized training department, who at the same time is responsible for coordinating needs assessment, development, delivery, and evaluation activities for a given population.

Proponents of the matrix structure explain that it helps ensure that training efforts match the needs of the line department, and thus most closely links with organizational goals. In addition, training resources can be shared and duplication of efforts minimized. This structure also allows for the career development of a

		Training Director			
		Consultant 1	Consultant 2	Consultant 3	N
Assignment	Client Population	Financial Controller's Department	Marketing Department	Operations Department	etc.
	Subject Matter Expertise	Desktop Technology, including CBT	Team Building and Self-Managed Work Groups	Executive Education	etc.
	Special Projects	Selection of new PC-based training administration system	Development of video for new-hire orientation program	Selection of 360-degree feedback instrument for use in performance reviews	etc.

Figure I-4 Matrix model of training department organization

training professional to become an expert in a particular area. However, critics of this structure explain that in a matrix organization, the professional has two sets of supervisors—the line manager *and* the training department director. Such a situation can lead to conflict and confusion. Nonetheless, if carefully managed, the matrix organization can be a very effective way to balance the needs of a line department with the skills of a training faculty.

Corporate University

Taking these models one step further is the trend for many organizations to create their own "universities," which provide a wide array of strategic and informational services and programs that meet the needs of the individual employee, the organization, its business partners, and the community at large. What differentiates this model from the faculty, client, and matrix models is that the description of who clients are—as well as who is involved in the needs assessment—is expanded to include a much wider group of stakeholders.

Examples of organizations that have used the corporate university concept to train suppliers and customers include HSM, Xerox, and Motorola, Inc. Motorola's Partnerships for Growth Program is designed to foster communications and growth potential among Motorola's employees, its suppliers and its customers, all of whom take core courses together. As discussed earlier, core courses constitute part of an organization's strategic thrust. Besides the Hart Schaffner & Marx example discussed in the Prologue, the Xerox Institute of Customer Education also provides managerial training for its customers. "The best sales person a Xerox sales manager can have is a well-trained customer."[13] In all these examples, business partners are also training clients.

In addition, several training departments have worked with educators at their local community colleges to develop core competencies. Community colleges are often targeted for such partnerships, as one of their missions is to respond to the needs of local businesses. Such collaboration is a win-win situation for everyone involved. For starters, collaboration ensures that the community college is developing competencies that are relevant in the workplace. Moreover, individuals who complete these community college core courses have a credential that is favorably considered should they apply for a job at the partnering organization. In addition, many organizations and colleges have developed plans that allow those who have successfully completed the *organization's* training program to transfer these credits to the local community college. The relationship between American Express Quality University and Rio Salado Community College in Phoenix, Arizona, is but one example of such a partnership.

Using the same approach to address strategic managerial training is Arthur Andersen's Major/Minor/Masters and Continuing Education Program (MMM

& CE). At Arthur Andersen, successful completion of courses is tied to job promotions. A curriculum of formal courses and informal learning activities is required of everyone at all levels of the organization.[14]

To recap, keep in mind that a training department's organizational structure is often a merger and/or combination of the best of these four approaches. The value of these descriptions is that they allow the training professional to translate the relationship between training department philosophy and mission into a useful organization structure. A training department's structure facilitates its being able to provide an array of strategic, information, and operational training programs.

The following section moves from these global, organizational issues faced by training professionals to a discussion of the skill set needed by individual training professionals. To provide an array of training activities, training departments rely on a variety of individuals who have a wide mix of competencies. Competent training professionals are the means through which a training department offers its services, which allows it to implement its goals and objectives.

Identifying Current and Emerging Roles for the Training Professional

Within a training career, an individual typically has many *jobs*. A given individual, for example, may have held jobs of "training instructor" and "instructional designer" before being promoted to "department manager." Within each job, this individual played various *roles*. Roles are job functions. To perform specific roles, the training professional uses special skills or *competencies*. Thus, a trainer builds a career by building a foundation of competencies that allows a variety of roles to be performed in a number of different, but related jobs.

With this distinction among jobs, roles, and competencies in mind, the American Society for Training and Development (ASTD), as part of a long-term, on-going study of training and development practices, identified and defined key areas that are considered important for individuals to master if they are to perform roles within training. An initial list of 32 competencies was developed in 1983, and an additional 3 competencies were added in a revised study. These updated, redefined competencies are depicted in Figure I-5. The 13 competencies marked with asterisks are those that were found to be critical in the majority of training careers.

ASTD clustered these 35 competencies into 5 key, critical training roles. Each of the following roles has at least 75 percent of their core competencies in common.[15] To illustrate the relationship among competencies and roles, each role cluster is followed by a sample list of competencies that support the roles. The competencies listed are not meant to be comprehensive, only illustrative; refer to Figure I-5 for descriptions of the competencies.

*1. **Adult Learning Understanding:** knowing how adults acquire and use knowledge, skills, attitudes; understanding individual differences in learning.

2. **Career Development Theories and Techniques:** knowing the techniques and methods used in career development; understanding their appropriate uses.

*3. **Competency Identification Skill:** identifying the knowledge and skill requirements of jobs, tasks, and roles.

4. **Computer Competence:** understanding and/or using computer applications.

5. **Electronic Systems Skills:** having knowledge of functions, features, and potential applications of electronic systems for the delivery and management of HRD (such as computer-based training, teleconferencing, expert systems, interactive video, satellite networks).

6. **Facilities Skill:** planning and coordinating logistics in an efficient and cost-effective manner.

*7. **Objectives Preparation Skill:** preparing clear statements that describe desired outputs.

8. **Performance Observation Skill:** tracking and describing behaviors and their effects.

9. **Subject Matter Understanding:** knowing the content of a given function or discipline being addressed.

10. **Training and Development Theories and Techniques Understanding:** knowing the theories and methods used in training; understanding their appropriate use.

11. **Research Skill:** selecting, developing, and using methods such as statistical and data collection techniques for formal inquiry.

*12. **Business Understanding:** knowing how the functions of a business work and relate to each other; knowing the economic impact of business decisions.

13. **Cost-Benefit Analysis Skill:** assessing alternatives in terms of their financial, psychological, and strategic advantages and disadvantages.

14. **Delegation Skill:** assigning task responsibility and authority to others.

(continued)

15. **Industry Understanding:** knowing the key concepts and variables such as critical issues, economic vulnerabilities, measurements, distribution channels, inputs, outputs, and information sources that define an industry or sector.

*16. **Organization Behavior Understanding:** seeing organizations as dynamic, political, economic, and social systems that have multiple goals; using this larger perspective as a framework for understanding and influencing events and change.

17. **Organization Development Theories and Techniques Understanding:** knowing the techniques and methods used in organization development; understanding their appropriate use.

18. **Organization Understanding:** knowing the strategy, structure, power networks, financial position, and systems of a specific organization.

19. **Project Management Skill:** planning, organizing, and monitoring work.

20. **Records Management Skill:** storing data in an easily retrievable format.

21. **Coaching Skill:** helping individuals recognize and understand personal needs, values, problems, alternatives, and goals.

*22. **Feedback Skill:** communicating information, opinions, observations, and conclusions so that they are understood and can be acted upon.

23. **Group Process Skill:** influencing groups so that tasks, relationships, and individual needs are addressed.

24. **Negotiation Skill:** securing win-win agreements while successfully representing a special interest in a decision.

*25. **Presentation Skill:** presenting information orally so that an intended purpose is achieved.

*26. **Questioning Skill:** gathering information from stimulating insight in individuals and groups through the use of interviews, questionnaires, and other probing methods.

*27. **Relationship Building Skill:** establishing relationships and networks across a broad range of people and groups.

*28. **Writing Skill:** preparing written material that follows generally accepted rules of style and form, is appropriate for the audience, is creative, and accomplishes its intended purpose.

(continued)

29. **Data Reduction Skill:** scanning, synthesizing, and drawing conclusions from data.

*30. **Information Search Skill:** gathering information from printed and other recorded sources; identifying and using information specialists and reference services and aids.

*31. **Intellectual Versatility:** recognizing, exploring, and using a broad range of ideas and practices; thinking logically and creatively without undue influence from personal biases.

32. **Model Building Skill:** conceptualizing and developing theoretical and practical frameworks that describe complex ideas in understandable, usable ways.

*33. **Observing Skill:** recognizing objectively what is happening in or across situations.

34. **Self-Knowledge:** knowing one's personal values, needs, interests, style, and competencies, and their effects on others.

35. **Visioning Skill:** projecting trends and visualizing possible and probable futures and their implications.

* Core Competency

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Figure 1-5 Core competencies required of trainers

- Analysis/Assessment Roles: Researcher, Needs Analyst, Evaluator
  - Competency Identification Skill
  - Computer Competence
  - Industry Understanding
  - Data Reduction Skill
  - Research Skill
- Development Roles: Program Designer, Materials Developer, Evaluator
  - Adult Learning Understanding
  - Feedback Skill
  - Writing Skill
  - Electronic Systems Skills
  - Objectives Preparation Skills

- Strategic Roles: Manager, Marketer, Organization Change Agent, Individual Career Counselor
  - Career Development Theories and Techniques
  - Computer Competence
  - Training and Development Theories and Techniques Understanding
  - Business Understanding
  - Delegation Skills
  - Organization Understanding

- Instructor/Facilitator Role
  - Adult Learning Understanding
  - Electronic Systems Skills
  - Coaching Skill
  - Feedback Skill
  - Group Process Skill

- Administrator Role
  - Computer Competence
  - Facilities Skill
  - Cost-Benefit Analysis Skill
  - Project Management Skills
  - Records Management Skills

Again, within a career, a training professional typically holds several jobs, each requiring numerous roles that rely on specific competencies. Each job includes roles that may require a different mix of competencies or skills at different ability levels. For example, a training instructor needs a high level of presentation skills. A training manager who also uses presentation skills may take them one step further to include evaluation of others' presentation skills.

Keep in mind, too, that typically no one joins an organization as "Training Director" without first having field experience in a wide variety of training-related jobs. In building a career, a training professional becomes expert in any number of competencies; it is the mix of these competencies that determine the job and the inherent roles the individual plays in that position. Core competencies are at the hub of Figure 1-6. Note that it is the combination of competencies that define roles. Roles in combination define jobs. Jobs in combination make up a training career. Each training professional's career "wheel" is thus very specific as to how core competencies were built upon.

To this point in this chapter, structures for organizing a training function have been overviewed along with the skill mix the training professional will need to have in order to perform various jobs within a given structure. Now, it is im-

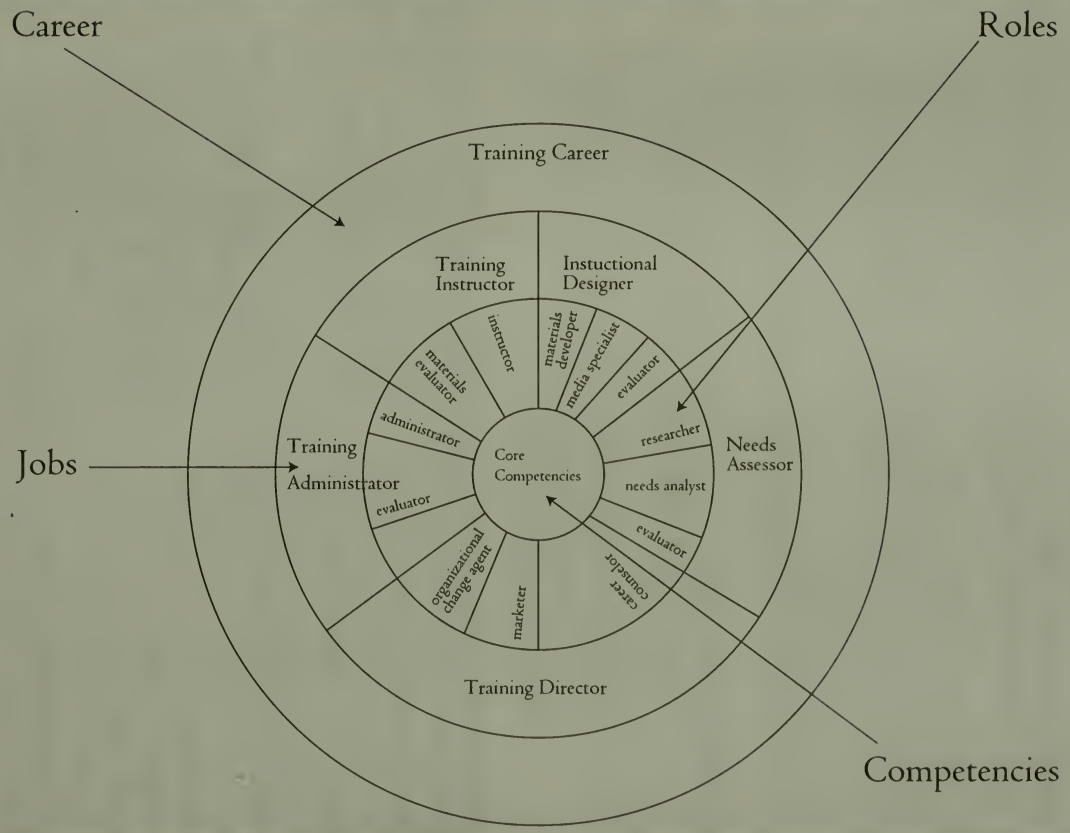

Figure 1-6 The relationship among competencies, roles, and jobs within a career

portant to understand what the training department or function actually does, putting individuals' competencies, roles, and jobs into a larger perspective of training processes. The *training cycle*, a conceptual project management strategy, is applicable to strategic, informational, and operational training efforts. It can be used within any model of training department organization. As discussed in the next section, the training cycle illustrates who is responsible for each stage and how activities at each stage relate to activities in other stages. As a project management strategy, the training cycle can help determine that:

- the *right* things are trained for
- in the *right* way
- at the *right* time and
- in the *right* priority order.

Understanding the Training Cycle

Researchers in the field of training and development have developed a number of models that depict the training program development process. Such models offer concrete steps for the design of learning experiences. The Instructional System Model (Irwin Goldstein); the Instructional System Development (ISD) methodology (the military); and Instructional Systems Design (also ISD) are examples. These approaches to training program development rely on observable inputs and outputs and are thus based on a systems orientation. Systems theory is very useful because trainers attempt to design learning experiences that will achieve maximum internal operating efficiency of each of the components of the system. However, the use of these models often assumes that a decision to develop training to solve a performance problem has already been made and training has been determined to be the best solution.

The training cycle approach views training program development as one of problem solving yet is also flexible enough to take advantage of organizational learning. The training cycle is similar to traditional systems models, but with one important addition—it emphasizes not only solving problems, but the problem-solving process itself is continually examined and refined. Moreover, *planned change* is a key underlying component of the model.

Kurt Lewin, a noted social psychologist, described planned change as a three part process: unfreezing (reducing negative forces toward the change); moving (making the changes happen); and refreezing (reaching a new status quo). According to Lewin, people are more likely to modify their own behavior when they are themselves involved in the process. This participation can be in problem as-

sessment, the design and implementation of the problem intervention (in this case, training), as well as its evaluation.

Placing the role of participation into an understandable, useable model, Lewin developed the *action research* model. Action research is a basis for solving problems in many different situations and is useful in conceptualizing organizational learning. Action research has at its base the assessment of a problem, the development of an intervention to solve the problem, the implementation of that intervention, and evaluation of the needs assessment, design, and delivery processes. A key element is that all stakeholders—all those who have something to win or lose by the success or failure of the intervention—are directly involved in this process. Action research has a goal of solving problems, and the organization is the learning laboratory. Participants in the process learn what worked—and what did not work—in solving the problem in a particular environment, and they profit from their experiences. Because of the strong, cyclical role of evaluation, action research supports the concept of a learning organization.

Action research is the basis here for the *training cycle*, depicted in Figure I-7A and I-7B. Note that the assessment, design, implementation, and evaluation stages are distinct yet fluid. Feedback is continual (I-7B). The outputs of one stage become the inputs for the next stage. The process is cyclical as the evaluation stage of one project can become the assessment stage of the next project. Ideally, training program development would include all stages. In reality, however, not all training programs are so neatly structured. Many training projects are effectively done ad hoc or on a one-time-only basis and are completed quickly. For example, workers often learn to use software applications packages ad hoc. However, the more strategic and larger the project, the more useful it is for planners to follow this more structured methodology.

Each element in the training cycle encompasses a distinct and complete process. Figure I-7A shows each element of this cycle. The first such process is defined as the *assessment* stage (or phase). Assessment is the investigation of the current "state" or scope of the perceived problem. Activities related to the assessment stage include organizational analysis, job analysis, task analysis, and person analysis. The second stage is *design*. Design can be defined as the creation of an intervention (in this case, a training effort) targeted at addressing the problem identified. Examples of activities at this stage may include curriculum development, course design, CAI design, and the development of learning aids or materials. The third stage, *implementation*, is the actual delivery of the intervention, the training program, which was designed in the second stage. The fourth stage is *evaluation*. Evaluation measures the degree to which the intervention had an impact on the problem.

Activities at the evaluation stage include not only the assessment of instructional delivery but also materials evaluation, course and sequence evaluation, instructional evaluation, organizational impact, and of course, learning outcomes

ACTION RESEARCH MODEL

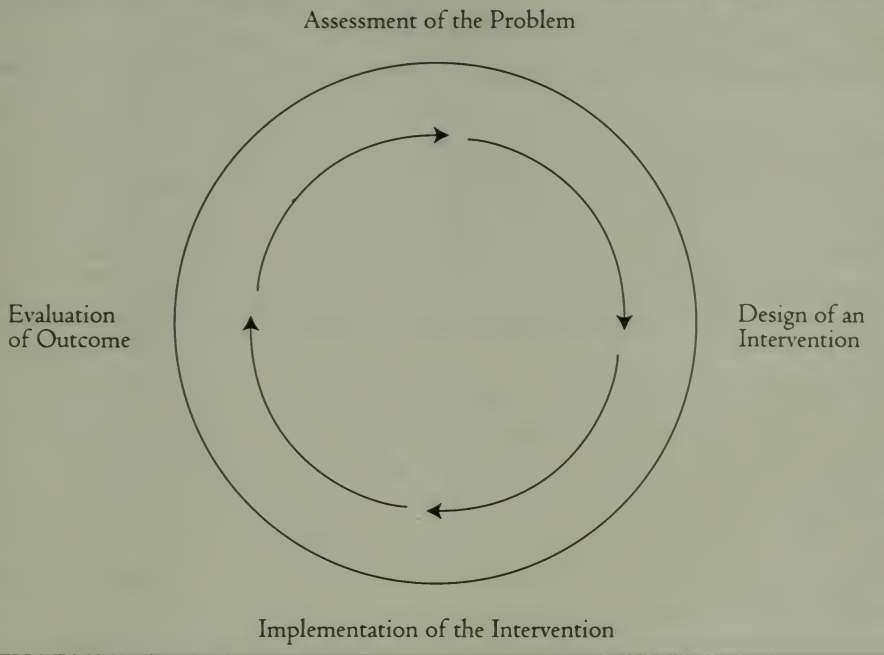

Figure I-7A The training cycle: an action research model

evaluation. To this end, Figure I-7B depicts the relationship of each stage of the training cycle to each other. Note that each stage relies on *each and every* stage that precedes it. Feedback at each stage means that outcomes are continually being evaluated. Using the training cycle, evaluation criteria come about as the result of a valid needs assessment effort. Likewise, successful delivery of a training intervention assumes that the needs assessment was valid, that the design phase was effectively carried out, and that the right population of trainees was reached at the right time. The continual interplay between each of these four elements, while cyclical in presentation, is interactive in nature. This cycle supports the notion that a trainer is actually a change agent, as will be discussed in Chapter 11. Moreover, because stakeholders are involved in all phases, the cycle supports adult learning theory (see Chapter 5), which says that individuals want a say in decisions that impact their lives.

Future chapters of this text will explain and expand each phase of the training cycle, offering theoretical foundations for practice and practices based on theoretical foundations. Two underlying premises will be repeated: training efforts must support the organizational mission, goals, and strategies, and training efforts must be both efficient and effective. Anyone considering the training field as a

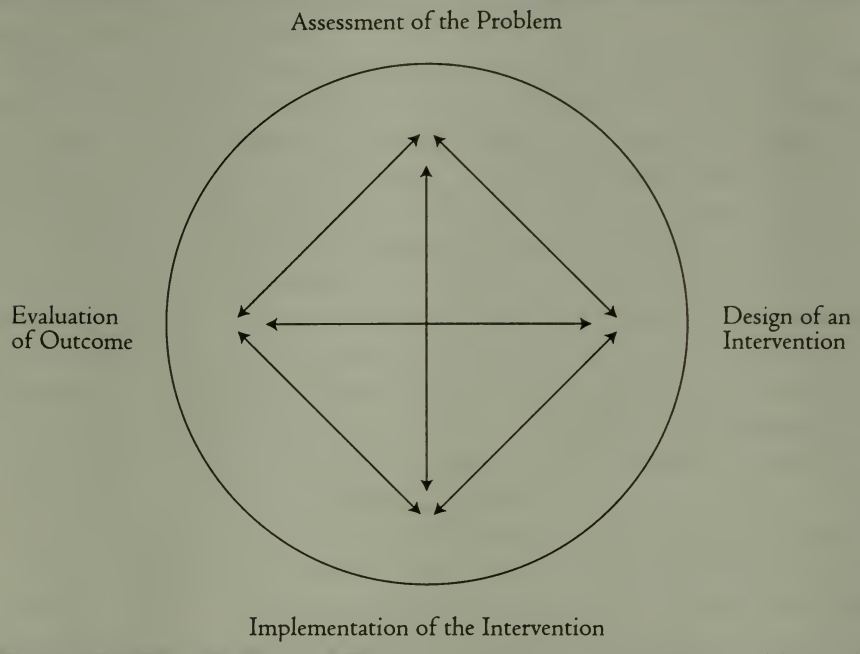

Figure 1-7B The training cycle: the interelationship of stages

career should have an appreciation and a skill base for each of the specific stages of the training cycle. It follows that the more competencies a training professional has, the more roles he or she can play—and the more effectively be able to lead the enterprise toward becoming a third-wave, learning organization.

7/20

Summary

In learning organizations, training has taken on a new importance. The globalization of the economy, demographic trends, and new technologies have changed the way work is done. These trends have forced organizations to rethink their roles and responsibilities to maintain a skilled, knowledgeable workforce.

This chapter described strategic training, informational training, and operational training. Strategic training is related to the organization's long-term plans. Informational training addresses workers' overall awareness of the organization

and/or its products. Operational training efforts apply directly to the day-to-day operations of the organization. Training efforts in all categories should be based on a well-planned needs assessment, and training outcomes should be identified in advance and used to evaluate training success.

A training philosophy is a set of values upon which a training department builds its mission and its structure. The philosophy may be operational (prepare individuals to perform their current jobs) and/or strategic and informational (prepare individuals to perform a variety of possible roles or take on more demanding assignments). Sometimes, by the very nature of the training programs, training can be considered educational (prepare individuals to realize their full potential as human beings).

Models for organizing the training department were described: faculty, client, matrix, and the relatively new concept of the corporate university. Under a faculty model, training professionals operate as subject matter experts and offer a range of on-going courses and workshops. Under a client model, training professionals have responsibility for ensuring that training and development needs for an entire subpopulation of an organization are addressed. The matrix model combines the faculty and client models, with the training professional working as a subject matter expert within a centralized training department and being at the same time responsible for coordinating the needs-assessment, development, and evaluation activities for a given population. The corporate university goes a step further than these models, providing a structure that presents a wide range of strategic and informational training programs to trainees who are not typically training department clients—customers, suppliers, and the community. The corporate university is also a useful way to offer continuing education services to employees at all levels. Because this model supports strategic training so well, the mix of individuals who are involved in the program planning efforts are often diverse. For example, stakeholders can be top managers interested in total quality management or reengineering programs *and* curriculum developers from a local community college interested in developing core competencies.

Within a training career, a training professional uses a wide range of competencies to perform specific roles within jobs. The American Society for Training and Development detailed 35 of these competencies, which range from understanding how adults learn, to computer competency, to visioning skills. Clustered competencies are roles, and clustered roles are jobs. A mix of jobs constitutes a career.

The chapter concluded with an overview of the four-part training cycle—assessment, design, implementation, and evaluation. The training cycle is a means of understanding processes required to establish effective, efficient training programs. Cyclical in nature, with highly interdependent steps, its methodology encourages cooperation from all organizational stakeholders. Understanding the relationships among tasks related to assessment, design, implementation, and eval-

uation is important for project planning and organizational learning. The training cycle, based on principles of action research, has the dual goal of systematically solving the problem and at the same time learning from the entire problem-solving process.

Questions

1. Why are trends in the world at large important to organizations? Identify two such trends and offer examples of ways that training departments have begun to address them.
2. What differentiates strategic training from informational training and operational training? Why is such a distinction important?
3. How might a training director's personal philosophy conflict with the philosophy of the training department?
4. As a training professional, would you prefer to work in a training department that was organized on a faculty, client, or matrix model? What are the advantages and disadvantages of each?
5. Describe each of the four stages of the training cycle: assessment, design, implementation, and evaluation. Why is it termed a "cycle"? Discuss why efforts at each stage are so dependent upon outcomes of other stages.

Applications

1. Begin a file from your local newspaper for news items and editorials related to the need to "train America's workforce," and the need for corporate training and education to maintain our competitive edge. Highlight important concepts and points and share selected copies of your readings with your classmates.
2. With your class, brainstorm the wide range of roles that an individual could play in the following jobs: training instructor, instructional designer, training manager. Which jobs appeal to you? Expand the list offered in this chapter. Which competencies do you already possess? Which do you need to develop?

3. Draw your own training career wheel that includes a vision of your future in the training field. In completing this exercise, you may find it useful to build on your answers to Question 2.

Additional Readings

Carnevale, Anthony, and Leila Gainer. *The Learning Enterprise*, special ASTD and U.S. Department of Labor Report, Washington, D.C.: Government Printing Office, February, 1989, 51 pp.

This publication summarizes some of the research completed by the American Society for Training and Development and the U.S. Department of Labor. Its emphasis is on the strategic importance of training.

Carnevale, Anthony, Leila Gainer, and Janice Villet. *Training in America: The Organizational and Strategic Role of Training*, San Francisco: Jossey-Bass, 1990, 261 pp.

This publication provides more in-depth findings from the ASTD/U.S. Department of Labor studies. Case examples are included.

Goldstein, Irwin L. and Associates. *Training and Development in Organizations*, San Francisco: Jossey-Bass, 1989, 525 pp.

Sponsored by the Society for Industrial and Organizational Psychology, this collection of readings offer strategies for training, including retraining mid-career and older workers.

Meister, Jeanne C. *Corporate Quality Universities: Lessons in Building a World-Class Work Force*, Burr Ridge, Ill.: Irwin, 1994, 255pp.

Meister profiles 30 corporations, illustrating their best training practices. She explains how these organizations extended training beyond employees to include suppliers, customers, their sales forces, and even K-12 schools and universities.

Miller, Kathleen, *Retraining the American Workforce*, Reading, Mass.: Addison-Wesley, Reading, Mass., 1989, 159 pp.

This book is a detailed study of corporate retraining that outlines a strategy with which corporations can help deal with outplacement and career transitions.

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13. Ibid., p. 153.

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Part Two

Needs Assessment and Evaluation

Prologue to Part II

As discussed in Part I, the very *raison d'être* of a training department is to ensure that the right people learn the right things at the right time and in the right priority order. The task essential to achieving this goal is to ascertain what must be learned, by whom, and what the business priorities of that learning are in terms of both topics and people. This task is referred to variously as needs analysis, needs identification, or needs assessment and is Step I—at least conceptually if not chronologically—in the classic training cycle (see Figure 1-7.) This book will use the term *needs assessment* to refer to this stage of the cycle.

The fundamental concept of needs assessment applies to a wide variety of situations. Marketing and sales departments are constantly attempting to discover what their customers' needs are. Doctors want to discover their patients' medical needs, beginning with symptoms and moving to causes. An entertainment conglomerate is always in search of consumer interests and needs and wants, always assessing what they are so as to respond with profitable products. A *training* needs assessment follows the same line of thinking as all these others, but with its own particular focus. Its goal is to discover the learning needs of its customers so that those learning needs can be met.

Evaluation, the fourth component of the training cycles outlined earlier in Figure 1-7, has particular relevance to needs assessment. Evaluation plays a part in the entire training cycle, but it is particularly important to the identification of learning need. One major aspect of evaluation is to determine whether or not planned learning occurred. If it did not, or was only partially attained, or perhaps generated new needs, this information should be fed back into the training cycle as needs assessment data.

Conflict can arise concerning the learning interests of an individual employee. It is possible for the needs assessment process to uncover learning interests on the part of a particular employee which the employee's organization does not support. The subject matter in question may not fit with the organization's business plans or with the organization's view of the employee's job or skills or potential. That is, an employee may consider it necessary or desirable to learn X or

may simply express an interest in doing so because that is where s/he would like to move in terms of career. The employee's management, on the other hand, may not agree and thus may not support this learning interest. Management may not think X will help achieve the individual's or the organization's performance goals. The employee's manager may judge that the employee's demonstrated performance record does not support his/her career interests, and thus having the employee learn X is not a good investment of resources.

In a large company, there may well be job possibilities to satisfy the career aspirations and learning interests of virtually all employees. In smaller organizations this may easily not be the case, and even in larger organizations a match is not always realistically possible. When such a difference exists, it frequently surfaces as part of the needs assessment process, and it is important that trainers be clear about the philosophy of the organization on how the difference is to be handled. One point of view says that any such conflict should be resolved in favor of the company's interests, not the individual's. The thinking here is that an organization's management must decide how its training resources are to be invested and thus ultimately determine not only what needs to be learned by employees but which employees should learn which subject matter, and when the learning should take place. Another point of view argues that the organization will in the long run (and perhaps even in the short run) benefit if its members all strive to identify and maximize their own personal potential in terms of work. Thus, the employee's interests would prevail. The truly important thing for the trainer in the process of needs assessment is to be clear on how this potential conflict is to be resolved.

With these preliminary points made, we can now turn our attention to a more detailed look at Chapter 2, "Training Needs Assessment," Chapter 3, "Evaluating Organizational Training," and Chapter 4, "Research Skills."

Chapter Two

Training Needs Assessment

Highlights

- Learning for performance
- Systematic approaches to needs assessment
- Targeting the learner population

Learning For Performance

The basic definition of needs assessment is simple and straightforward (doing it may not be easy, but the definition is simple):

Training needs assessment is the process of identifying what employees need to learn

- in order for them to do their jobs
- in order for them to grow their careers
- in order for the organization to carry out its plans and achieve its performance goals.

The focus on *learning* in this definition is crucial to understand. Training, like all other aspects of an organization, is concerned ultimately with performance, both the individual employee's job performance and the organization's performance as a whole. The particular focus that training brings to the performance issue is a focus on *learning*, either to enable or to enhance performance. The training department seeks always and only to answer the questions: What do people need to learn in order to perform? What do people need to learn for the organization to perform? Where and how can learning support performance? Once these questions are answered, the training task is to help learning occur with maximum efficiency and effectiveness.

In any organization, there is a constant influx of *the new*. Employees are asked to take on new tasks. There are new job responsibilities to be met, new areas of business the organization has decided to get into or perhaps whole new businesses. New tools and new processes are continually being introduced into the workplace. In all these cases, people need to acquire new knowledge or master new skills. That is to say, they have a need to *learn* in order to perform and in order for the organization to perform. A training needs assessment seeks to identify these learning requirements.

Organizations also have a recurring need to overcome *performance deficiencies* of one kind or another. Such deficiencies are caused by many factors, only sometimes by a lack of knowledge or a lack of skill. It is only a lack of knowledge or skill that can be addressed by *learning*. One of the key tasks for needs assessment is not only to identify performance deficiencies but to identify those that can be remedied by learning. Training professionals must be careful not to leap too quickly to training as solutions for all problems. Training solutions can be successful and should be applied if and *only* if training is the best remedy. This is not a question of being noble, nor is it merely a matter of professional discipline on the trainer's part. It is an exercise in self-interest. Training applied as a solution to the wrong problem, to a non-training problem, will only return to haunt the trainer who allows this mistake to occur.

The definition of training needs assessment stated above also reminds us that organizational training is all about *employee learning*. Training needs assessment does not focus on instruction or on programs or on what the training department has to offer. It focuses instead on *learning needed*, on the knowledge, skills, and attitudes (KSAs) employees need to learn for the sake of performance. This focus on learning may lead to a wide variety of methods for helping learning to occur. It does not lead automatically to a classic classroom training program. When the focus remains on learning, the trainer will search always for the most efficient and effective way to make that learning happen, whether that means a classroom or otherwise. Training needs assessment is not about setting up training programs. It is

about finding the right response to opportunities and problems caused by learning gaps.

The following discussion deals with issues related to each component of the definition of training needs assessment: learning for the job, for careers, and for the organization.

Learning for the Job

The purposes of learning listed in the opening paragraph of this chapter are in the order in which they are usually encountered. By far the most usual and frequent reason why learning is needed is so that employees can perform successfully in their jobs, carry out the tasks and meet the responsibilities assigned to them. This covers an enormous range of possibilities, varying from job to job. A manager, for example, must learn different things from a receptionist. Programmers have requirements vastly different from sales people, who differ dramatically in learning need from the boiler room staff or the cafeteria workers or the auditors. Each member of an organization, from top to bottom, potentially has the need to learn or re-learn how to do his or her job.

This may mean learning how to do the job in the first place. Basic, entry-level training for all kinds of work is a staple of organizational life. Once the basics are acquired, additional learning needs will sooner or later surface. After a while, some part of the basics may need refreshing. More typically, as the individual gains experience and becomes more proficient, the need arises to learn more complex skills within the same job stream. An MBA fresh off the campus may be able to perform solid business analysis at a fundamental level, but may well require additional training to deal with the complexities of a merger or international taxation. People in management jobs face the need to learn new skills as their slice of the organization's resources grow larger or different, or as the organization's objectives and priorities shift with the tides of business or technology or demographics or any other factor that shapes the world in which the organization lives. Certainly a major trend in the current organizational and business scene is the continuing push to re-engineer. Re-engineering means an organization undertakes to do its business in fundamentally different ways. The ripples from the re-engineering thrust bring about changes in the workplace that continually require re-learning, new learning, even un-learning.

In almost any job there are core skills which an incumbent must master. To hold the title of secretary or controller or systems analyst or supervisor implies the ability to carry out a skill set specific to the title, a skill set which someone new to the job may need to learn. Furthermore, given the basic core skills, every job also makes other demands upon those who hold it, demands which are situational in nature. Such demands vary from company to company. Management philosophy,

company goals and constraints, the company's vision of itself and its future, its equipment—a host of factors—make the application of a core set of skills in one company very different from that in another. Even though an individual may be experienced in a core set of skills, a new circumstance may require learning on the job holder's part, learning that a needs assessment must bring to the surface.

Even within the same organization, core skills for a job may remain the same but vary in their use from department to department or from unit to unit inside a single department. Once again, the learning need is real and no less a job-related skill than the original core set. It is training needs assessment's responsibility to capture these learning requirements.

Learning for Careers

Beyond the learning necessary for individual jobs, there is the whole issue of career. Most organizations and managers think beyond the immediate present to recognize employees' needs for professional growth within their careers. It is almost always in an organization's best interests to support such career interests, and most do. Career-growth interests, of course, generate a great deal of learning requirements and are usually an exciting area for a training needs assessment to address.

There is also the issue of growth *across* careers. Learning needs often arise from an employee's desire to get into a career different from his/her present one, or to move to a substantially different aspect of the existing career track. Perhaps the most common example of this is the desire to move into management, which typically takes the form of a good, successful worker being offered or seeking the opportunity to become a supervisor in the department or profession where that successful work has taken place. Such a move builds upon the technical job mastery the worker has achieved through experience, but it also necessitates mastery of a whole new set of skills. Moving into a management job makes it necessary to acquire the specifically managerial skills of planning, delegating, staffing, work monitoring and evaluating, and the like. To this skill set must be added the interpersonal side of supervision, such responsibilities as performance appraisals, corrective discipline, coaching and counseling.

The move to management is perhaps the most common jump to an entirely new career, but in most organizations there is a whole range of careers to which people may aspire. Very often organizations are supportive of such career interests. Given the need in the organization for employees with the skills to which an individual aspires, the situation may well be win-win all around. Recall the *caveat* in the prologue to this section of our text, however. The last thing a training department wants to do is help an employee acquire skills for which there is no organizational support.

The Needs Assessment Process

Needs assessment means searching out and discovering who in the organization needs to learn what and with what priority. This can easily get confused with another process, that of distributing a list of courses and asking managers whom they wish to send to which programs and when. This latter procedure is indeed an important task that a training department must carry out. It is an administrative necessity, providing the information needed to plan and allocate resources ranging from instructors to material to classrooms to travel plans, and schedules for all the above. Its importance is not at all diminished by recognizing that it is *not* needs assessment. In fact, when this administrative task has been completed, the training department will have collected extremely valuable information. It will have a good handle on which of its programs people plan to attend. It will know which of its offerings should be either canceled or marketed more aggressively. It will know what it needs to plan for in the way of resources. It will even know that some people in the organization need to learn what its programs offer. But what it will *not* really know is the full picture, the full spectrum, of the organization's learning needs. Moreover, if it is not careful, the training department's marketing of its scheduled programs can short circuit the needs assessment process. It can limit people's thinking to what the training department has planned to offer. These plans will almost certainly not cover all the learning that is needed. The plans merely reflect what has already been scheduled and needs to be administered. Thus, the training department must be vigilant to see that the identification of learning needs is not restricted to the programs it has already set up to offer.

Beginning With the Job

As we have already discussed in the earlier sections of this chapter, the process of needs assessment starts with identifying the learning needs generated by people's jobs. This focus includes the current job with all its changing demands, as well as new assignments within the same job track. The process further includes attention to promotions and career goals that build upon the current job. All of these considerations seek to identify what the organization needs its people to do so that both the people and the organization can operate successfully, in the immediate present and with a reasonable eye on the future. In the simplest of terms, the focus of needs assessment is always the job, the job, the job: enabling a person to do this job here and now, or a different job coming down the organizational or career pike. Beginning with the job is not a limitation, however. It is, rather, a way to ground firmly in organizational reality both what individuals need to learn here and now, and what they need to learn to grow and progress throughout careers that makes both personal and organizational sense. Thus, even though the process

begins with a job, it does not remain there. It moves on to career. Moreover, as discussed later in this chapter in the sections entitled "Systematic Approaches to Needs Assessment" and "Targeting the Learner Population," the real beginning point of needs assessment is the learner. Beginning with the learners in their jobs and building systematically from there provides a way to look at the entire organization's learning needs or any segment of it, since learners and jobs can be clustered into logical groupings or job families or departments or the total organization.

Convincing the Customer

One of the difficulties trainers face is that their customers often do not understand the value of a needs assessment. Busy managers and professionals will often assume they know what the problems are and just as often have pre-conceived notions of solutions as well. This all too frequently takes the form of making assumptions about what training is needed, or even *that* training is needed. Trainers are only too prone to succumb to these assumptions themselves, all too eager to prove themselves to their clients, ready to jump to training activities and programs after the initial phone call from a potential client. Even worse, they are all too ready to leap to *teaching*. Trainers must restrain their own eagerness for the tried and traditional. They must also be prepared to educate clients in the necessity, including costs, of needs assessment as an essential first step. One help towards convincing them is to point out that the wrong solution almost always leaves things in worse shape than no solution at all. One can also reference doctors and illnesses and the importance of getting at root causes rather than mere symptoms. Yet another good argument can often be drawn from the client's own experience. Most business professionals, whether focused on internal or external customers, are careful not to sell the wrong solutions and know the risks of doing so. Most of them do a needs assessment with their own customers to make sure they understand the true need before recommending a course of action. A client pushing prematurely for a training response to a problem can often be convinced to spend the time and money for a needs assessment by invoking his or her own business practice or track record. It is crucially important to persuade them to do so.

Summing up the Definition

To sum up: the concept of needs assessment is a process that provides answers to a specific set of questions, answers that both the organization's management and its training professionals need to know. It answers questions like:

- Who needs to learn what?
- Why do they need to learn it?
- At what depth?
- What is the priority of the learning in question?

- ➢ Priorities in terms of learners
- ➢ Priorities in terms of topics
- ➢ Priorities in terms of time . . . deadlines by when the learning must be accomplished by each group of learners

The assessment of learning need is thus a set of answers to the right questions asked systematically of the right people. What are these right questions? And what is a systematic approach to asking them and capturing the answers? And who are the right people to ask?

Systematic Approaches to Needs Assessment

The questions that must be asked of people in an organization to identify learning needs must begin with business plans and projects and ideas about strategic direction. Out of discussions about these sorts of issues fall gaps in what people know or know how to do. Needs assessment does *not* begin with questions about courses or training required. It certainly does not begin with a list of classroom programs that the training department intends to offer. The focus must be on the organization's needs: its plans and problems and issues, and the learning requirements that follow from them. To *keep* the cross-hairs of needs assessment firmly on learning needs, it is best to be systematic about it. A systematic approach puts discipline in the process, and ensures both focus and follow through. We will examine two such systematic approaches here. One, a traditional systems view, proceeds by examining person, task, and organization—and the interactions among these variables—to identify various forms of learning needed. The second is a learner-centered approach which features a generic template as guidance for touching on all the right issues, together with a pragmatic tool for putting the learners at the center of the process and keeping them there.

A Systems Approach

A traditional, and quite productive, way to undertake training needs assessment is to use a *systems approach.* Training systems lie within and are directly affected by the larger system that involves organizational policies, traditional work modes, and a variety of individual skills. The systems approach to needs assessment is concerned with three key variables and the interaction among them. The three variables, discussed in this section, are:

- ➢ the organization
- ➢ the task—the knowledge and skills needed for a specific job
- ➢ the individual who is to do the work

Organizational Analysis

Organizational analysis provides a viable framework for considering work and the people who do it: organizational analysis provides background, setting, and context for all the other considerations in needs assessment. One goal of organizational analysis, for example, is to ensure that training is done for the right topics, topics that both fit and foster the organization's various agendas. Another goal is to ensure that learning outcomes can be transferred back to the workplace. That is to say, its goal is to make sure that what people learn in training actually suits the real workplace and its values. Indeed, *organizational culture* is a major preoccupation of organizational analysis, and it is beyond question that training outcomes must fit within the culture or be achieved in vain. Increasingly, many organizations today are working hard to understand their own specific cultures as a necessary backdrop to training activities. Beyond that, given the new economic realities of the turbulent, global marketplace, organizations are in many cases striving to *change* their cultures to support new ways of working and doing business. Organizational culture is addressed in the needs assessment process by ensuring that key *stakeholders* (trainees, management, reporting staff, HR professionals, customers) provide meaningful input to the needs assessment process.

Task Analysis

Task analysis is the dissection of a task into the knowledge, skills, and attitudes needed to accomplish it, together with a description of these components in behavioral terms. As will be discussed in Chapter 5, the behavioral vocabulary includes very specific terms that provide the means to identify and measure the competencies needed to carry out a task. Human resource professionals find such job descriptions to be very useful, particularly as standard job titles can be misleading or incomplete. "Administrative Assistant" is an example of a job title that can describe a wide variety of responsibilities and positions. Detailed, behavioral job descriptions can be used for hiring purposes, to help assess whether a particular candidate is capable of doing the work described. Job descriptions are also useful for performance evaluation, supporting judgments concerning the accomplishment—or lack thereof—of the work so carefully described. And of course, the details of behaviorally written job descriptions provide concrete means of identifying gaps in task skills and thus learning needs.

Person Analysis

Organizational and task analyses paint a picture of the organizational setting within which work is done. What is missing is a picture of the individual doing the work, the employee to be trained and the gaps in this person's knowledge and skills. *Person analysis* adds this missing dimension. It provides an understanding of the characteristics of the individuals within the target training population. Getting a solid picture of these characteristics is not always easy, since training is

often provided for new hires or an entire new job. It is nevertheless invaluable information with which to shape the training provided. Moreover, it is often noted that the basic job skills of entering workers today are very different from those of earlier generations. Thus, knowing the target population, knowing its experiences and aptitudes and attitudes adds important information to the training task.

A Learner-Centered Approach

Another approach to needs assessment puts the learners in the center of the process and keeps them there, while reviewing systematically the other relevant organizational issues to create a full picture of what people need to learn. The process begins by looking at people in their jobs, with questions about job responsibilities and tasks. The questions then move on to issues that are broader in nature, less tactical and more general, of greater interest to a managerial and strategic mindset than to the perspective of simple task accomplishment, with the learner remaining at the heart of the questions. The template described below captures precisely this flow of issues.

The learner-centered approach is the form of needs assessment espoused by this book. Not that there is anything wrong with the traditional systems approach. It simply seems to the authors that keeping the learner central to the process is the single most important aspect of needs assessment. The following template is a tool for surfacing the right issues in identifying learning requirements, while keeping the learner firmly in mind. The section on the template will be followed by a discussion of centering needs assessment on a population, with a method for gathering the population's learning needs from multiple sources.

A Needs Assessment Template

The chart in Figure 2-1 lists a set of topics in Column 1. These topics are a representative set of questions to be probed and explored with organization members to identify learning needs. Column 2 of the chart provides a calibration of the likelihood of each member of the organization's interest in, or need for, the topics in Column 1. The degree of interest or need depends upon the person with whom the needs assessment discussion is taking place and the kind of job that person holds. As the chart shows, not all the topics are appropriate for every member of an organization. The point is not to exclude anyone. The point is, rather, to be realistic. The Xs in Column 2 reflect a sample estimate of which topics are likely to be of interest to individual workers and which topics are classically of interest to managers. The chart is intended as a *template* for asking the right questions of the right person in the process of needs assessment.

Figure 2-1 is a *template*, not a strait jacket. It should be tailored as needed. The list of topics in Column 1 might well change depending on the organization being studied or the timing of the assessment. The list might be shortened, expanded, or changed. The Xs in Column 2 might also undergo modification

TOPICS	INTEREST/NEED	
	individual	manager
1. Assigned Responsibilities	x	x
2. Planned Projects	x	x
3. Career Aspirations	x	
4. Organizational Plans		x
5. Technical Forecasts	x	x
6. Business Forecasts		x
7. Depatmental Skills Mix		x
8. Dialog		x
9. Strategy		x

Figure 2-1 Needs assessment template

depending on the organization and its people. The template furnishes a way to identify an organization's learning needs in systematic fashion. The specific example provided here is a generic pattern to be applied as appropriate to a real-life situation.

Using the Template

To explain how to apply the template, each of its rows will be briefly discussed. The discussion will offer sample questions, probes, and ideas which training professionals can use in exploring the topics with real clients. Out of such explorations of work, professional, and business issues will fall learning needs. The explanation of the template is meant to suggest how to use it and above all to lay the groundwork for tailoring it to other situations as useful.

1. Assigned job responsibilities: Every member of the organization, from the president to the lowest level, can usefully address this topic. All employees can talk about their responsibilities and identify what they need

to learn in order to meet them satisfactorily. Job responsibilities are a topic for everyone.

2. Planned projects: The question here has to do with special assignments taken on as part of or in addition to regular job duties. Work on specific projects, alone or as part of a team, can easily generate the need to learn tools, procedures, interpersonal skills, or a new facet of the business. Again, project plans are usually issues that concern everyone in an organization.

3. Career aspirations: The focus here is not the present but the future. What do individual employees want to do next? Or what would the organization like them to take on next, in either the near- or long-term future? What sorts of knowledge or skills might provide the proper positioning for a career move that is of interest and in line with what the organization needs and supports? This is a question that at first blush would seem to pertain to everyone at all times, but this may not be the case. The reality is that a career focus is not always appropriate, certainly not at every moment, not in every discussion of learning need. The X in Column 2 of our sample template reflects the belief that attention to career issues should be driven primarily by individual employees, when they are ready for it.

4. Organizational plans: What sort of learning will be required by the plans the organization has put in place for the near term? The organization here might mean anything ranging from a small unit to a large department to the entire enterprise. A department may be planning to install a new processing system or a new standard with regard to its technology or undertake a downsizing to meet budgetary strictures. The enterprise as a whole may be planning similar moves or the entrance into a new business or a re-prioritizing of its existing ones. The point is that business plans should clearly be reviewed as a source of learning need. As the sample template indicates, primary attention here is from management. That is not to say that individual contributors should not also take business plans into consideration in identifying what it is they need to learn. They should, indeed, to the extent they have access to the plans. It is, however, a classic management responsibility to make sure that employees are equipped with the skills and knowledge that the organization's plans will require.

5. Technical forecasts: Technical specialties are always changing. Neither secretaries nor sales people nor computer technicians nor human resource personnel nor machinists nor mechanics nor cooks—no profes-

sionals—work today the same way their counterparts did ten years ago. Or five years ago. Or even three years ago. Attention needs to be paid to this constant change, an equally constant source of learning need. Professionals must listen carefully to what the prophets are saying about where their profession is going, and learn accordingly. This is an issue shared by the professionals themselves and their management.

6. Business forecasts: Business, too, is constantly changing. We live in what some have called a "whitewater world," a world of foaming business rapids and demographic rocks and fast flowing technology streams, with quiet, placid pools few and far between. Once again, the management of an organization must keep an eye on where the best research thinks *their* business, or business in general, is going. Once again, the goal is to make sure the organization's people are ready to handle what looks to be coming down the road. Learning needs based upon business forecasts tend to be a management concern more than an individual one.

7. Departmental skills mix: All managers want the people in areas of responsibility—a small unit, a large department, the organization as a whole—to be cross-trained. The idea is to enable people to back each other up, fill in for each other, keep things flowing smoothly when a team member leaves for any reason, test out new tools and techniques before the old are discarded. Learning need based upon a departmental skills mix is almost always a perspective on learning need provided by management.

8. Dialog: Within every organization there are boundaries—boundaries between departments and professions and geographical sites, and even floors. It is, or should be, a major management concern that these boundaries help the end goals of the organization, not hinder them, particularly in these days of flatter hierarchies. This often argues for communication across these boundaries, for dialog between the various communities of professionals inside the organization, *for learning about each other.* People in one organizational silo (a self-contained vertical unit) need to learn about the work of people in another. Systems analysts typically need to learn the language of business. Field personnel should learn a little corporate-speak. Product developers must do some cross-talk with sales. Again, these kinds of insights are almost exclusively concerns that will surface in discussions with managers and are often a rich source of learning need.

9. Strategy: Most organizations do some thinking today about where they want to be tomorrow, how they want to be positioned in their market-

place for the future. Over and above short-term business plans, thinking goes on concerning the longer, more strategic haul. Definitely a management issue and by definition not a front-burner one, this is a topic that deserves serious discussion at senior levels. While attention to it will not identify near-term learning requirements, it may provide insight into what the organization must learn in order to survive and prevail for the long term.

Further Points About the Template

As you move down the list of topics in our sample Needs Assessment Template, the issues move from employee concerns to management concerns. There is some crossover around the middle of the list: both individuals and their managers often share an interest in learning needs around business plans and forecasts concerning the future of the business and its professions. In much the same way, the list also goes from a focus on the tactical to the strategic, from the burning urgency of the task at hand to a longer-term perspective, from the immediate and urgent to the less obvious but more important. Accordingly, as you go down the topic list, the topics are more appropriate for the more senior levels of the organization.

The template is most emphatically not a mere order-taking form. As we have said, not all its topics are appropriate for all employees, but some issues may apply to people or situations that the learners themselves do not see. Most people, for example, tend to get caught up in the tactical, in the immediate job issues, in what they have to learn to do their assigned job responsibilities. As we have seen, that is definitely the place to start. But needs assessment must go beyond that starting point. There are some issues which belong on an individual's learning agenda even if that individual does not initially see them. Here is where the training professional adds value by bringing ideas to the discussion rather than just being responsive. A beginner in a job may quite appropriately not give any thought to technical trends, but a senior incumbent ought to be considering them and learning from/about them. It is for the trainer to raise such issues when the learner ought to be taking them into account but has not done so. It is the trainer's job to make sure all the right issues are covered in needs assessment.

The most important thing about the Needs Assessment Template is to see it as exactly that, a template. It is not intended to be a *form* that can be used in many different training situations. It is, rather, a guide as to the kinds of topics and issues to explore with the right people in order to identify key learning needs. Once a customized template has been created in an organization, of course, it can be used as a chart for gathering and plotting information. Thus, in addition to systematically guiding the *questions being asked* concerning learning needs, the Needs Assessment Template can also serve as a tool for systematically gathering and pooling and prioritizing the *answers to the questions.*

Needs assessment means getting the right population of learners to discuss the right set of issues in terms of their need to learn about them, and capturing the results of their discussions systematically. The next section of this chapter deals with how to focus on that right population, and what forms such a discussion might take.

Targeting the Learner Population

The Needs Assessment Template provides guidance concerning the kinds of questions and issues to be explored with the target population of learners. We need next to turn our attention to the place where the need for learning really resides: to the learners themselves.

Our goal in needs assessment is to find out what the members of our organization need to learn given their jobs, assignments and careers, all against the backdrop of the organization's plans and directions. Except in the most unusual cases, it is virtually impossible to deal with the learning needs of the entire organization at once. You must inevitably divide and conquer, focusing on a single group of employees at a time. The set of employees in question could be a project team. It might be a department in general. It might be a group of like professionals looked at all across the organization on the assumption that they would have similar learning needs—for example, the programmers from every department. In a very small organization, it is possible that the target might be the entire membership as a whole.

Setting Up the Bull's-eye

Whatever the population of employees is, the initial step is to place them in the bull's-eye of an imaginary target, making them the central focus of your needs assessment effort for the moment. (See Figure 2-2). The next step is to discuss with them the topics listed in your Needs Assessment Template. Begin by asking them directly what they themselves think they need to learn about particular topics on your template. Work these employees down your topic list *as appropriate*. Remember, too, not all topics on the template are suitable for all employees. Remember too that the trainer is expected to be proactive as well as responsive. Not only should you accurately capture the information about what they themselves have to say, you should also add your own thinking to theirs. You should challenge the assumptions your target learners are making about what they need to learn. You should bring up to them issues they ought to consider but have left out. It is important that you capture the learning needs that derive from these discussions in some systematic way (see the earlier above discussion about using the Needs Assessment Template itself for data capture).

proactive as well as responsive

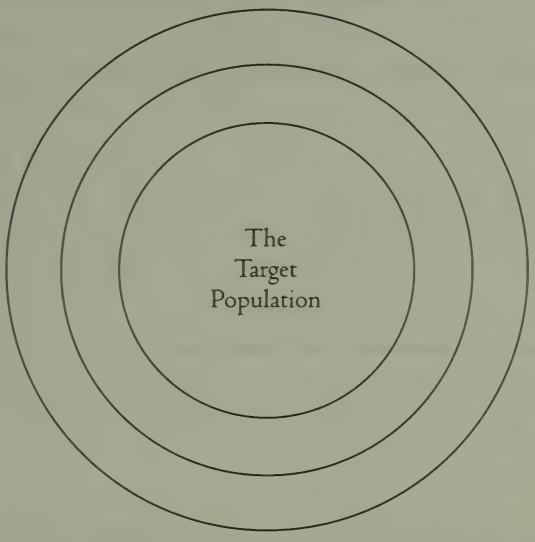


Figure 2-2 The needs assessment bull's-eye

An Example of Targeting Learner Populations

Let us imagine that in the course of performing the needs assessment for your organization, working your way department by department through the entire enterprise, you reach the recruiting department. The manager of the recruiting department is delighted to have your help. She and her recruiters have a good track record in terms of timeliness and cost control, but she is concerned that her people are getting burned out and are growing a bit brusque and abrasive with their customers, the hiring managers. You remind her that you do not want to sell anybody a false bill of goods. You can help only with problems for which training is a solution—and burnout would, on the face of it, seem not to be a problem that training can solve. On the other hand, gaps in customer service skills usually are. So the two of you agree to undertake a full-scale needs assessment to identify all the things the people in her department need to learn. (You recommend she get in touch with her HR manager to discuss the burnout issue and develop some possible countermeasures. You also offer to help if you can be of service.)

The recruiting department has a membership of twenty-three: sixteen recruiters, in teams of four, each with a senior recruiter serving as team leader; four AAs (administrative assistants), one in support of each recruiting team; the manager and her secretary; and a front-desk receptionist, who manages the waiting room and is also in charge of the department's resumé bank and its high-volume copier.

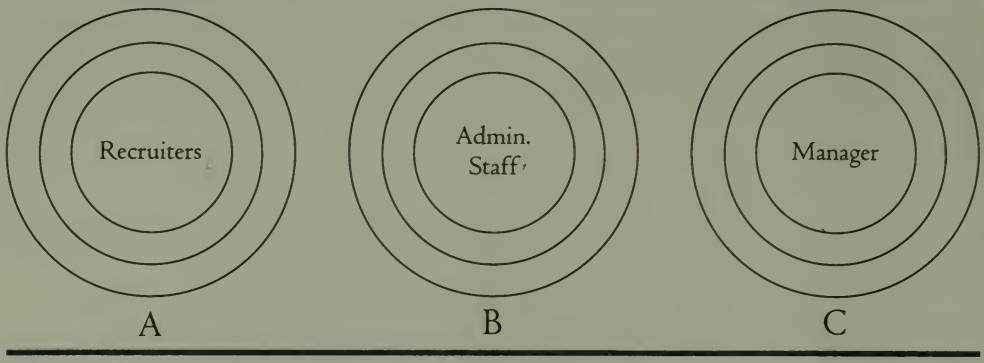


Figure 2-3 The recruiting department: taking turns in the bull's-eye

You make each component of the department the target of needs assessment in turn (Figure 2-3.)

You begin the needs assessment discussions with the sixteen recruiters (Figure 2-3, A.) You lead them through the Needs Assessment Template you have developed covering the range of topics appropriate for your organization (Refer to Figure 2-1 as a sample.) You hold these discussions in several different ways, fitting yourself into the recruiters' hectic schedules. You use long distance phone interviews to accommodate several of them who are traveling. You also do several written questionnaires, a couple of one-on-one's, and a focus group for six recruiters over a brown-bag lunch. (See the section entitled "Gathering Needs Assessment Data" for details on various methods of doing so.) In all these cases, you talk the recruiters through the topics on your Needs Assessment Template, getting their ideas about what they themselves need to learn about each topic appropriate for them.

Next, you invite the manager's secretary and the four AAs to a group discussion one afternoon (see Figure 2-3, B). Your thinking, and the manager concurs, is that these five make up a cohesive cluster of employees concerned with administrative support within the department. Their discussion of their learning needs focuses heavily on the top half of your template's topic list. Business trends and strategic issues frankly do not seem to have much interest for them or much bearing on them. They are, however, keen to discuss some of the technical trends in administrative work, especially new desktop technology that the computer services department is rumored to be bringing into the organization.

Finally, in a face-to-face interview, you put the manager herself into the needs assessment bull's-eye (Figure 2-3, C). Your discussion with her ranges all across the department, indeed across the organization as a whole. She focuses sometimes on

her own need for learning, sometimes on things she wants to make sure her staff masters. She covers most of the items on your template's list, though you have to remind her of the potential impact of the new computer technology being introduced into the organization.

Rings Around the Bull's-eye

With regard to all three of your recruiting department targets—the recruiters, the AA staff, the manager—once you have gotten their own direct input as to their learning needs, the next step is to seek similar input from others. These others are people who have a stake in how and how well recruiting is done. They are the recruiting department's *stakeholders*, its *customers*. They are *anybody* who has a useful perspective on what the target population needs to learn. The picture of a target makes this point graphically: it shows a set of concentric rings around the bull's-eye itself. These rings surrounding the bull's-eye represent people in the organization *other than* the target population. They are people the needs assessment process ought to hear from. They are people who have information, perhaps unknowingly, concerning the learning needs of the population in the bull's-eye.

Figure 2-3 shows the three target populations from our recruiting department example, each one in the bull's-eye in its turn. The idea now is to expand the data gathering. We place into the rings around each bull's-eye those groups of people in the organization who have something useful to say about the learning needs of the target population. Who fills up these concentric rings will, of course, vary in real life from situation to situation. Figure 2-4 shows the result of filling in the rings for our imaginary recruiting department. An explanation of the rings follows the figure.

The concentric rings around the target populations are the following:

- With the recruiters in the bull's-eye (Figure 2-4, A), the target contains four concentric rings representing four sets of people who have good input concerning the recruiters' learning needs: their department manager (the target population's boss is *always* one of the concentric rings), the administrative support staff, the recruiters' customers (the hiring managers—the target's customers are also always included wherever possible), and lastly the human resource professionals who provide HR services to the recruiting department.

- When the administrative staff is placed in the bull's-eye (Figure 2-4, B), there are two concentric rings: the recruiters whom the AAs support and the department manager. (The recruiters are part customer and part immediate supervisor to the administrative staff.)

- With the manager in the bull's-eye (Figure 2-4, C), there are again four concentric rings in the target: the manager's staff, both recruiters and

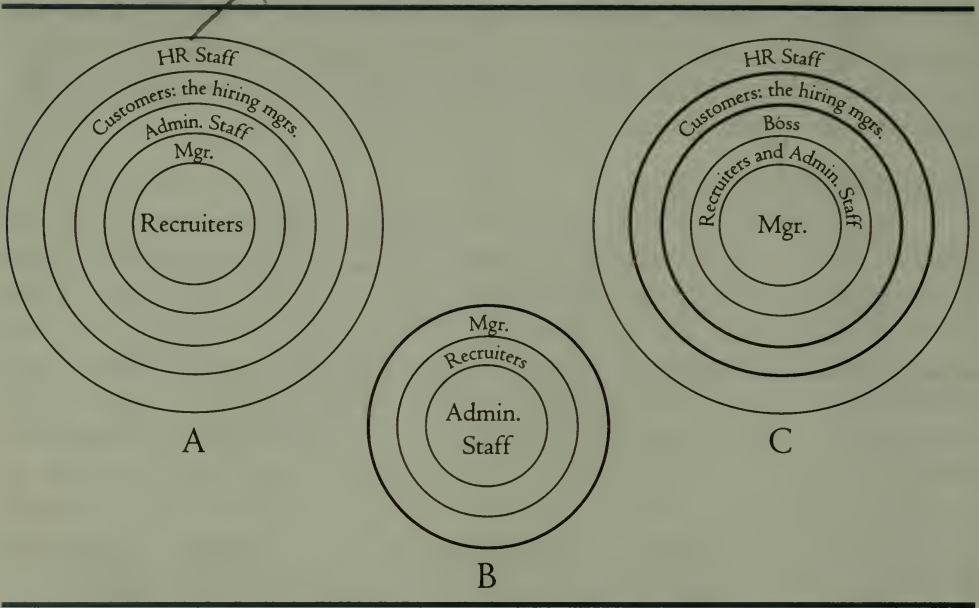


Figure 2-4 Rings around the bull's-eye

AAs; the manager's own boss; the recruiting department's customers (the hiring managers); and the department's HR support professionals.

The concentric rings in the Needs Assessment Target are any group of people with insight into the learning needs of the population in the bull's-eye. External customers offer one of the most interesting sources of data about the target population's learning needs, increasingly utilized these days and especially powerful for employees with jobs in sales, customer inquiry, field service, and the like. The point is to search out a picture of the target's learning needs from several sources. You want to be certain to get more than just their own self-picture. And talking to those surrounding the target provides exactly that: each ring around the bull's-eye will provide a different perspective on the target's learning requirements. Care must be exercised when involving a supervisor's subordinates in needs assessment, to make sure the exercise does not simply turn into a gripe session or worse. The basic process remains: taking interested parties through your Needs Assessment Template and discussing the issues and questions the template raises concerning the population in the bull's-eye provides a rich, multi-dimensioned picture of what that target population needs to learn. Involving these *stakeholders* in the identification of the target's learning needs is powerfully beneficial to the target itself

and to the organization as a whole. It is also a fundamental premise of action research, the model for this book's approach to the training cycle.

The picture of learning needs that emerges from the above process is one that can be presented to the organization's management at any appropriate level, validated with them, and then used to plan training and development for the target in a comprehensive way. Training decisions are thus made with an informed eye not only on *whom* but also on *what*, and the necessary priorities concerning both. Note that needs assessment information about one target population—the recruiting department in our example—can be pooled with the same kind of data concerning other populations. The result is a mosaic of learning needed by larger and larger segments of the organization, all the way up to the whole. Thus, the approach described here has the major advantage of providing all levels of management with the information to make business-driven decisions concerning what the members of the organization need to learn and when. And this, of course, is precisely what needs assessment is all about.

Gathering Needs Assessment Data

Finally, how do all the discussions mentioned above take place? The term discussion is used here in the broadest possible sense. Trainers in an organization may not always talk one-on-one with every member of the target population and then with all those concentric rings around it. Such an idea is unrealistic. One-on-one interviews are certainly a fruitful device for gathering data, but not the only one. The discussions of the issues and questions raised by the Needs Assessment Template can also be done by questionnaire (paper, fax, or e-mail) by telephone survey, by group interview, by discussion groups. Further data can be drawn from employee sources like exit interviews, climate surveys, and end-of-course evaluations. Literature searches and the opinions of acknowledged experts can also play a part. The ways to collect information concerning learning needs can, in short, be as varied and efficient as the demands of time make necessary and the creativity of the trainer makes possible. See Chapter 4 for a treatment of research tools and methods.

In the case of a training department with multiple members, the training manager often assigns key populations within the organization to specific training professionals. The purpose of the assignment is to identify that population's learning needs on an ongoing basis, discussing learning needs with its members in a continuing, systematic way, using the structured guidance of a Needs Assessment Template and discussing learning needs as elaborated above. This models the way a sales manager assigns sales representatives to specific customers within the overall sales territory. The approach gives the training professional a rich and satisfying job. It also puts a useful emphasis on the point that gathering and pooling customer data is actually the engine that drives all the training department's activity.

The customer is truly king. The approach, finally, serves notice that training needs assessment is not an event but an activity, an ongoing process to identify learning need over the inevitable shifts and changes of time and circumstance.

Sometimes a training department is asked not to take a broad-brush look at learning needs but rather a look at the needs that focus on a specific topic: a new product the organization plans to market, a new project a particular group is going to take on, or perhaps a particular problem that has surfaced within the organization. Given such a fixed charter, the conceptual point remains the same. Needs assessment remains the identification of what the defined group needs to learn about topic or problem or project or tool. As before, the target group should be led through discussions of the issues and questions appropriate to the stipulated topic (a more narrowly focused Needs Assessment Template). Once again, the learning needs fall out of the discussions. And once again, the group's self-portrait of learning needs should be validated and expanded by similar discussions with other interested parties within the organization.

Summary

Needs assessment is the first step in the training cycle, first conceptually if not always chronologically. It is the process of identifying what the members of an organization need to learn in order for the organization to achieve its goals. The organization's goals, of course, include having individual employees do their jobs and grow their careers. The process provides for attention to trends and directions for the future that are important to the organization and to the people within it.

The needs assessment process can be broadly focused on the organization as a whole, more narrowly on a part of the whole, or more narrowly still on a specific topic or assignment for a learner population. Needs assessment begins with a person's job, but does not end there. It builds on job information as a foundation to provide for learning needs driven by changes in the job or in the organization, *and* to support legitimate career aspirations.

Data about learning needs should be gathered not only from the target learners themselves but also from others in the organization who have a stake in the learners' work and growth. Useful information can also be obtained from sources such as climate surveys and research in the appropriate trade literature, as well as through traditional organization, task, and person analyses. Ideally, needs assessment is an ongoing activity rather than an event, and the key to its successful accomplishment is to ask the right questions of those who can offer useful judgments concerning learning needed.

The phrase "ask the right questions" must be very broadly understood to include not only literally asking questions face to face, but also exploring issues by means of such tools as focus groups and surveys. The most important point of all is that if needs assessment is properly done, it sets a solid foundation for all the other steps in the training cycle. Its absence puts the entire cycle (and the training department) at great risk.

Questions

1. Training needs assessment is much more a matter of asking the right questions than of getting the right answers. Why is this so? What does it mean?
2. Why is it important for training needs assessment to be an ongoing process rather than an annual event? What do you see as the implications of this approach?
3. One of the key outcomes of training needs assessment is a sense of the priorities regarding what must be learned and by whom.
    a. What are some of the factors likely to be important in determining priorities as to **WHAT** should be learned by members of an organization?
    b. How about **WHO** should do the learning—what might set the priorities here?
    c. In either case, who should set the priorities with regard to learning?
4. What are some of the ways to gather needs assessment data? Have you had any experience with any of them? Which do you think would be particularly effective? Why?
5. Consider a training group that distributes a list of courses around (or a catalog) and asks people to register for programs—why is this not really a needs assessment? What need does this process speak to? Whose needs are met by the process?
6. An academic institution does not undertake needs assessment as described here. Why not? What are the differences between schools and training departments within organizations?

Applications

1. Interview a working trainer and find out how needs assessment is done in his/her organization.

2. Do a search of management and business literature (such as *Forbes, Fortune, Harvard Business Review, the Wall Street Journal, Journal of the AMA)* to see what business managers want from training—or what they find lacking in it. Then do a search of training literature (such as *Training and Development, Training, HRM Magazine*) on the same issues. Compare the two findings. What do the findings suggest concerning needs assessment?

3. Search business literature for articles on companies that increase their training budgets in difficult economic circumstances. What do the articles tell you? What do they tell you specifically about needs assessment?

4. Prepare a one-minute "elevator speech" explaining to a potential training client why it is absolutely imperative to do a needs assessment before any training is designed or implemented.

5. Use a version of the Needs Assessment Template to interview one or two people employed in organizations about their learning needs. Be prepared to discuss the experience in class.

Additional Reading

Lewis, Theodore, and David C. Bjorkquist. Needs Assessment: A Critical Reappraisal. *Performance Improvement Quarterly*, 5 (#4), 1992, 33-54.

Up to date tour of current thinking about needs assessment. Practical, with good conceptual linkage to performance issues.

McClelland, Sam. A System Approach to Needs Assessment. *Training and Development*, 8/92, 51-53.

Solid focus on needs assessment from a systems thinking perspective. Short, punchy, commute reading.

Nilson, Carolyn. *Training Program Workbook and Kit.* Englewood Cliffs, N.J.: Prentice-Hall, 1989.

A wonderful resource of realistic, pragmatic tools for *implementing* the tasks trainers need to carry out. Chock full of generic forms and templates that can be customized to specific needs and situations, with full explanations and helpful suggestions. Expensive, but worth every penny.

Zemke, Ron, and Thomas Kramlinger. *Figuring Things Out.* Reading, MA: Addison-Wesley, 1982 (1986 ed.).

In sharp, satiric, even funny language, this book makes the case for insisting (a) that needs assessment is an essential step in the training cycle, its absence a show-stopper, and (b) on training as a solution *only* for gaps in knowledge or skill, *only* for situations where learning can be the fix. Vintage Ron Zemke (a professional secret: anything Zemke writes should be on the trainer's "must read" list).

Chapter Three

Evaluating Organizational Training

Highlights

- Views on the need to evaluate training programs
- Perspectives on evaluation's role in the training cycle
- Identification of domains of training criteria
- Sources of support and expertise for training evaluation
- Descriptions of evaluation strategies
- Guidelines for using evaluation data

Evaluation as a Basis for Sound Decisions

With a training department that offers over 1,000 courses, employs close to 300 trainers, and operates on a $15 million yearly budget, New England Telephone's rationale for spending time and money on the evaluation of training is simple: It may be more expensive not to evaluate it.[1]

To *evaluate* means to assess or to judge. In this chapter, *evaluation* is defined as a systematic process to assess the effectiveness and/or efficiency of training efforts. Evaluation means putting to use data that describe training outcomes or results. Its goal is not to label a training effort as good or bad. Its goal is to provide feedback useful for a variety of business-related objectives. Organizations need to know if they are doing the right things right. Evaluation data provide evidence that can be used to correct costly errors or to support an exemplary process. Evaluation data allow an organization to learn from its experiences.

These data help decision makers judge how well training solutions, which were derived from individual departmental, and organizational needs and goals, addressed the identified gaps in knowledge, skills, and attitudes. Evaluation data are used to determine if training affected success on the job, if one training program was more effective than another, and even if the organizational culture supports new ways of doing work. In short, evaluation data tell you what you need to know about your training program or activity.

Therefore, the evaluation process includes much more than determining if trainees learned particular skills from a specific training program or if a particular instructor was well prepared for a class. While these are important considerations, of course, a wide range of evaluation data are needed by various training audiences as they make decisions related to all stages of the training cycle.

Despite the known value of evaluation, training professionals can easily rationalize why evaluation is *not* done:

> *Time.* ***"We're on a schedule here. Who has time to do evaluations? We no more finish one project than we're starting another."***
>
> *Expense.* ***"We're on a budget here, and working with a limited staff. Where will the additional people and physical resources come from if we are to evaluate everything we do?"***
>
> *Expertise.* ***"We're instructors, not psychologists. I'm really not trained in evaluation. Evaluation is the purview of Ph.D.s in psychology, not me."***
>
> *History.* ***"We've always been successful with our training programs. Everyone tells us they enjoy the courses and learn from the instructors and materials we develop. There are no problems. That's evaluation enough!"***

W. Edwards Deming captured the essence of why evaluation is so important in training though the acronym PDCA: *P*lan, *D*o, *C*heck, *A*ct. Training *plans* abound. Trainers love to *do*, or train. However, at each step of the training cycle, it is important to *check*, to make sure the planned process is occurring correctly and the right kind of output is produced for the next phase of the cycle. No plan is

perfect; error and variability inevitably occurs, requiring the need to *act* to correct it. Human nature is indeed human, and things human invariably need to be monitored for mid-course corrections. (There are those who say that the *A* in PDCA really stands for "Adjust," an idea that is certainly the fruit of experience.) The ultimate "why" for evaluation is that it brings the training department and its parent organization back to the reason for the department's very existence: Did training in fact help the right people learn what the organization needs them to learn in order to achieve its goals?

So there are many answers to the "why evaluate" question. A key objective of this chapter is to offer perspectives on the *when, what, who, where,* and *how* of evaluation, while incorporating the *why*. First, the role of evaluation is discussed in terms of the training cycle. Then we move to identifying relevant, valid *criteria.* Criteria are measures of success. Criteria must be identified before any training effort is planned and delivered. After all, if you do not determine what is important—what constitutes success—before training efforts are implemented, how can you objectively determine if your efforts were successful? Relevant criteria are those that are important to someone who needs information on which to base decisions. We conclude with guidelines for ensuring that the training evaluation process is done in the right way for the right reasons. The next chapter, "Research Skills: Tools for Effective Needs Assessment and Evaluation," offers perspectives on *doing* an effective evaluation.

Evaluation's Role in the Training Cycle

Chapter 2, Needs Assessment, focused on identifying the needed knowledge, skills, and attitudes (KSAs)[2] needed for a targeted person, task, job, or career. In the training cycle (see Figure I-7), the evaluation stage is adjacent to and tightly linked with the needs assessment stage. As a preliminary activity, evaluation strategies are planned once KSAs have been identified. Throughout the training cycle, evaluation data provide feedback as to the efficiency or effectiveness of a program's design, its supporting materials, and its delivery. In addition, because the training cycle *is* a cycle, evaluation results often serve as input data for the next needs assessment stage.

In other words, evaluation is not merely an event that takes place once a training program has been run. It is, rather, a process that occurs in each phase of the training cycle:

- to evaluate the *assessment* stage. Were the right objectives developed? Were organizational goals addressed? Were the right individuals identified? Was the right content identified?

- to evaluate the *design* stage. Were quality learning materials and technologies developed? Were they consistent with adult learning principles?

Were training programs designed to support the learning needs of the targeted group?

- to evaluate the *implementation* stage. Was quality instruction offered at the right time and in the right priority order? Did trainees learn what the program was designed to deliver? Did they perceive that the training was worthwhile? Were they able to use what they learned back on their job? Were organizational goals addressed in a timely and effective manner?
- to evaluate the training cycle itself. Are we doing enough training? Are we spending enough resources (or too much) on training? Do our clients in the organization view training as accessible and worthwhile?

With regard to when evaluation takes place, keep in mind that evaluative data captured after training has been completed should be fed back into the needs assessment phase, bringing the training cycle full circle. It may well be that evaluation uncovers learning needs not fully addressed by the training just completed, or not addressed at all. Evaluation may offer fruitful avenues to explore for future needs assessments, and it is important to systematically capture and use this information in a timely manner.

Criterion Development

Criteria are measures of success or yardsticks that can be used to evaluate outcomes. In buying a car, for example, the savvy consumer first identifies what he or she needs from a car. Let's say, for example, that you live in Alaska, where there's lots of snow and vast distances between major cities. In your needs analysis you determined that your car should get good gas mileage and good traction in snow and ice. You have managed to save $20,000, and you really feel you cannot go into debt. Which of these cars do you buy?

- a Lincoln Towncar. Equipped with: power steering, power seats, a computer with a map facility, cassette/compact disk player, AM/FM stereo radio, dual airbags, and dual car seats for children in the back seat. Estimated MPG: 17 town, 21 road. $40,000.
- a Honda Accord. Equipped with: power steering, cassette player, AM/FM stereo radio, dual airbags, front wheel drive, rack and pinion steering. Estimated MPG: 30 town, 37 road. $19,000.
- a Jeep Cherokee. Equipped with: four-wheel drive, cassette player, AM/FM radio, driver side airbag. Estimated MPG: 20 town; 27 road. $25,000.

Given the data available here, one obvious choice is the Honda, right? However, what happens when you drive out in the Lincoln? This car has many wonderful features and outstanding luxury. And what if you drive out in the Jeep? The

Jeep is much closer to your identified criteria, but it costs more than you want to pay, and its MPG is much lower than the Honda. Neither the Lincoln nor the Jeep meets your established criteria. If you opt for one of these vehicles, you will have a car. However, you will not have the right car for you, and you'll realize this when making car payments, traversing difficult terrain, or buying gasoline.

Like the consumer buying a car, the training professional makes many choices in determining what to evaluate. The previous illustration exemplifies why criteria are important. If you opt for the Lincoln, that means you changed your mind as to what your criteria are after the fact and your original needs assessment data are useless. Criteria developed early-on in the training cycle serve to keep the training professional on track, ensuring that what is evaluated matches intended outcomes.

For example, let us assume that outcomes from your needs assessment suggest that supervisors need to manage their time better. To address this issue, your training program design might include a combination of workshops, audio cassettes, printed materials, and a lecture series. If you have determined that the sole evaluation measure for this training effort was for supervisors to demonstrate improved time management skills, yet you evaluate the effectiveness of the training program solely by asking the trainees how much they enjoyed the time management lectures or the materials used, you have gathered interesting but useless data. You really do not know if the training program met the original criterion. To evaluate training effectiveness, the training professional needs to work from appropriate criteria that ensure that the right people are trained in the right way for the right things. Without these yardsticks to determine what is "right," training results cannot be accurately measured.

Relevant criteria are derived from the knowledge, skills, and attitudes (KSAs) identified in the needs assessment stage. Robinson and Robinson recommend that as a training professional, you should "write down the purposes of an assessment before you begin collecting information. Know why you are collecting the information and what decisions you plan to make from it."[3]

In other words, to be of value, data must be used. Another way to conceptualize what should be evaluated is to identify *who* in an organization is interested in knowing if or how well training outcomes met the identified criteria. Interested stakeholders include the training department managers, the training professionals, the trainees themselves, the line managers, and executives who make decisions about organizational goals and support/approve the training budget. Once your evaluation audience has been identified, the next step is to get its commitment to the criteria. Such upfront work ensures that your audience not only understands the goals of your training effort but buys into those goals.

The following discussion links the needs assessment to the development of training criteria. Criteria measures are grouped into clusters called domains and

each domain includes brief descriptions of appropriate evaluation strategies as well as how these evaluation data are used by decision makers involved.

Domains of Evaluation Criteria

Domains are categories of similar ideas or thoughts. Domains are also precisely defined content areas. To categorize what needs to be evaluated in training, Kirkpatrick identified four domains of evaluation criteria: reaction, learning, job behavior, and organizational results.[4] Keeping in mind the notion of a learning organization, the training process is added to this domain list (see Figure 3-1).

The Reaction Domain

Reaction refers to the trainee's perception of the worth of a training activity. Trainees themselves are in a unique position to determine if their training experiences were worthwhile. This means much more than determining if training was an enjoyable experience. Reaction should also attempt to obtain learners' views as to the viability of the content, the learning materials used, the scheduling of the course, the instructor's performance, and even their own performance.

Program participants might, at first glance, seem only to be the recipients of training attention and evaluation efforts rather than key stakeholders. Adult learners, however, should be viewed as resources to the training process as well as its targets. Potential training participants, given the right information, can self-screen themselves for programs—deciding what they need or do not need—thus assisting in the evaluative process of making sure the right people get trained. They can also provide reviews of both training design and delivery *if* they are asked the right types of questions about training in which they have taken part. Data from reaction sheets can also serve as a training department marketing tool, as the ultimate consumers describe and rate their training experiences.

- Reaction
- Learning
- Job Behavior
- Organizational Results
- Training Process

Figure 3-1 Five domains of training evaluation criteria

One way to judge classroom performance of instructors is to observe them, using a detailed observation guide, such as the one offered in Figure 3-2. An observation guide can ensure that raters focus in on established criteria. A trained observer can then document a trainer's performance. Recommendations when conducting observations are to use more than one rater and observe as many times as possible.

The end-of-program participant questionnaire is the classic method for

END-OF PROGRAM PARTICIPANT QUESTIONNAIRE

Instructor Observation Guide

Instuctor_____ Date_____

Course_____ Time_____

Rater_____

ITEM	COMMENTS
1. Preparation	
2. Knowledge of Subject	
3. Participant Involvement	
4. Use of Audiovisual Aids	
5. Correlation with Leader's Guide	
6. Transitions Between Topics	
7. Naturalness or Ease with the Class	
8. Additional Comments	

Figure 3-2 Sample instructor observation guide

gathering data as to whether the training program has delivered what it was designed to deliver. Such questionnaires are often dismissed as "happiness sheets" or "smile sheets" and they certainly can be constructed to be self-serving on the part of the instructor or the training department. Participant questionnaires can, on the other hand, be designed to probe for essential information on whether the up-front learning objectives were well and fully addressed and whether these objectives were, in fact, achieved. They can, in short, enlist adult learners in the assessment of their own training experience: Was it an experience that (a) lived up to its advance billing, and (b) helped or hindered participant learning. Of course, whether or not reaction data are collected, trainees *will* evaluate their training experiences. The training department might as well collect these data and put them to use. Figure 3-3 is an example of a tailored program reaction questionnaire. Often it is not possible to tailor an evaluation form for each training activity; generic, non-program-specific, evaluation forms are often used.

The Learning Domain

The second of Kirkpatrick's domains, *learning,* refers to criteria that determine that learning took place. Was the training program an effective tool? Did trainees actually acquire the KSAs that the program was designed to deliver? Another basic goal of evaluation at the point of training delivery is *program efficiency:* Did the training experience (whatever its shape) deliver what it was supposed to? Did trainees learn what was intended for them to learn? Did their learning take place *because of* the training experiences, or *despite* them?

Participant reactions, as discussed earlier, are one measure of learning. Tests are another classic way to find out if learning has occurred. Paper-and-pencil exams, familiar from school days, are but one form of test. Tests such as these are arguably less suitable for adult learners in an organizational setting than in academic settings and—whatever the setting—often measure test-taking skills rather than content mastery. However, tests do provide quantifiable data that may indicate changes over a given period of time. Figure 3-4 is an example of a group test on banking principles. Several of the questions refer to items in the course content.

Having people demonstrate acquired skills via role play or actually doing what the training is teaching them to do—e.g., give a speech or a performance appraisal, keyboard a document at required speed and error rate, or write a program to spec in COBOL—is another sort of test. This approach has the advantage of simulating the use of the learning on the job. The simulation also avoids the baggage associated with paper tests (memories of bad experiences with school exams, cultural bias, and the like).

The Job Behavior Domain

The third of Kirkpatrick's domains, *job behavior,* refers to the degree to which the KSAs learned were transferred back to the job. Were trainees able to apply their

Program Reaction Questionnaire

Program Evaluation_____ Date_____

Name (optional)_____ Sector/Function_____

1. Please rate each of the following items to indicate your reaction to the session. If ranking is less than average, please comment on the back of the form.

ITEM	Poor	Adequate	Average	Good	Excellent
Objective 1 (list)					
Objective 2 (list)					
Objective 3 (list)					
Applicability to your job, responsibilities, and needs					
Enough examples and chances to practice so you can apply your new skills back at work					
Opportunity for discussion with other participants					
Length of the program relative to its objectives					

2. Which part of the program was of most value to you? Why?

_____

_____

(continued)

3. Which part of the program was of least value to you? Why?

_____

_____

_____

4a. Please use the following scale to comment on each instructor's ability to lead the program where: 1 = Needs improvement; 2 = Adequate; 3 = Good; 4 = Excellent

Item	Instructor 1 (name)	Instructor 2 (name)
A. Organization/preparation of subject matter	1 2 3 4	1 2 3 4
B. Presentation of subject matter	1 2 3 4	1 2 3 4
C. Clarity of instructions	1 2 3 4	1 2 3 4
D. Ability to control time	1 2 3 4	1 2 3 4
E. Ability to link content to your business	1 2 3 4	1 2 3 4
F. Ability to stimulate productive discussions	1 2 3 4	1 2 3 4
G. Ability to create a productive learning environment	1 2 3 4	1 2 3 4

4b. Please comment on the instructor's abilities to lead the program.

_____

_____

_____

5. How would you rate your overall reaction to the program? 1 2 3 4

6. How would you rate your level of skill or knowledge:
   a. before the program 1 2 3 4
   b. after the program 1 2 3 4

7. Other comments:

_____

Figure 3-3 Sample reaction form

Course exam

Team_____ Score_____

Principles of Banking Course

Exam Philosophy

A good exam helps you realize just how much you've learned and, if it is really good, will add to your knowledge by giving you the opportunity to put new concepts to work on relevant problems. Good exams concentrate on your reasoning abilities. They provide an opportunity for you to structure the problem and support your answer accordingly. Good exams do not have a single, unique answer, but stress the complexity involved in addressing realistic problems. Bad exams, in our view, just ask you to repeat specific facts and focus on tripping you up over relatively minor details. We've done our best to make this a "good exam." You'll do your best on it by keeping in mind that we're trying to evaluate your managerial reasoning skills. *Please be sure to make your reasoning process part of the answer to each question.*

In the managerial world, very few problems are solved by individuals working alone. Indeed, the ability to arrive at a team solution is one of the keys to success in a management career. In keeping with this, there is just one exam for the entire team and all team members will receive the same grade.

Weights for each question are indicated to help the team allocate its resources efficiently. The maximum score is 100 points. You may wish to divide up the responsibility for different questions among team members. This is an open book as well as an open mind exercise. Please use the space provided to write your answer.

Please write clearly and concisely. Remember, the course instructor is an experienced teacher and can readily differentiate between material relevant to the question and unrelated "fill."

Questions

1. Using the Executive Information Report* and the material in your handbook, currently what appears to be your:

   a. two greatest competitive advantages?
      1. (5)
      2. (5)

(continued)

b. two worst competitive disadvantages?
   1. (5)
   2. (5)

2. Using the End of Simulation Analysis,* analyze how well structured your balance sheet is for the future economic outlook:

   a. (10) Briefly outline your economic forecast for the next 2 years

   b. (10) List advantages of your current balance sheet structure.

   c. (10) Identify any changes you would make and why you would make these changes.

3. What role on your team exercised the most leadership and by what means did the person(s) in this role lead the team's behavior?

   a. (5) Role:

   b. (5) Leadership Style*:

   c. (5) How effective was your overall team behavior?

   d. (10) Knowing what you now know about the bank simulation and the composition of your team, what would you recommend to a similar team beginning the simulation to improve their overall performance?

4. Assume that you're now three years in the future, and the bank you've examined is being considered by your current bank as a possible acquisition. Assume that the acquisition would be structured as a tender offer at 120% of the bank's current stock price.

   a. (5) Would you recommend proceeding with the tender offer?

   b. (20) Cite reasons to support your recommendations.

*Note: This term refers to course content

Figure 3-4 Sample course exam

learning outcomes in the workplace? Were those trained able to take the knowledge, skills, and attitudes they learned in the training program back to their jobs and actually use them there?

Line managers make the go/no-go decisions about training. They are ultimately the ones who say what subjects the organization needs its people to learn, what the schedule of that learning should be, what training participants should be included, and in what priority order both the people and the topics are to be ranked. Note that all of these are issues on the evaluative side of planning training. While the training professional should take the lead in making sure all these issues are addressed, it is the organization's management that ultimately must make the decisions. Line managers play yet another role in evaluation—they provide uniquely valuable insights as to whether or not the competed training has had an impact on the work of the people they sent to training in the first place.

One of many ways to evaluate the impact of training on the job is to survey participants (and their managers) once the program is over and people have had sufficient time to put acquired skills and knowledge to use in their work. This usually takes from one to three months. Such survey data are inevitably anecdotal in flavor, but they can provide useful input to the evaluation of both the training design and the delivery of instruction. These data also send a useful message to corporate employees as a group that the training department is paying attention to the impact of their programs and whether the organization is getting what it is paying for. Figure 3-5 is an example of a survey designed to solicit program evaluation from the *trainees' manager* based on job behavior. Of note, if you do survey the trainees' manager, be sure that the trainees know you are doing so and what you will do with the results; this helps insure good customer relations. You could easily adapt this form to gather data from the trainees themselves.

The Organizational Results Domain

Kirkpatrick's *organizational results* domain refers to the degree to which training efforts paralleled either the short- or long-term goals of the organization. Has the training helped employees do their work or do it better, manage/grow their careers, understand the company's strategic objectives, and the like? In short, has the training done whatever the organization funded the training to accomplish?

Top management typically is interested in having data that indicate that training objectives were linked to organizational objectives. They are not usually as interested in the outcomes of a particular training program as they are in the bigger picture that depicts the training department as a viable, contributing player in corporate strategies.

Organizational results—the ultimate reason for having training in the first place—are very difficult to measure, chiefly because they result from the intermix

Managerial Survey of Training's Impact on Job Behavior

Evaluation Form: **Writing Skills Workshop**

Note: The information you offer on this form will allow us to determine (1) that workshop content matched your employee's needs; (2) that your employees have been able to apply what they learned back to their jobs; and (3) help us plan for the future.

Name:_____

Functional Title:_____

Mailing Address:_____

Telephone:_____ Fax:_____ E-mail:_____

List of Employees Who Attended the Workshop

Name:_____ Telephone:_____

(provided by the training department)

1. As a result of participating in the writing skills workshop, have you noted any changes in any of your employees' work? Please cite specific examples.

_____

_____

_____

2. Are there additional aspects of business writing that should have been included in the workshop, but were not? Please be as specific as possible.

_____

_____

_____

(continued)

3. Are there any additional data that would help us assist you in working with your employees (e.g., changes in your job, major reorganization; changes in business strategy; change in direct reports?)

_____

_____

_____

Additional Comments:

_____

_____

_____

Figure 3-5 Sample managerial survey

of a wide variety of variables. For example, if sales go up after training has occurred, this increase could be due to new product offerings, a seasonal fluctuation, or simply more advertising in the media. While training *may have had* an impact, it is very difficult to attribute the increases to the training effort. However, it *may* be possible to capture improvement data from the workplace that can legitimately be claimed as the result of training. Examples here could be long-term incremental sales revenue, a sustained drop in processing errors, and increased production for an individual or a group of workers. The reality is that such improvements in the workplace cannot easily be tracked; even less can they be attributed solely to training. Many other factors usually play a part in workplace results. Nonetheless, if such data can be captured and tracked, so much the better. Note that if this approach to evaluation is to be pursued, it is absolutely *essential* that it be *planned* and *agreed to* up front, as part of the training design.

In a later chapter, specifics will be offered as to putting a dollar-and-cents value on the training costs and benefits, but it is important to consider the value of such calculations at this point. While cost/benefit figures allow comparisons between different kinds of interventions (training programs), another key reason is to determine if a structured training program was more appropriate than, say, on-the-job training. Even given that the training activity met all its objectives, if the bottom line is that production figures were not affected or if the trainees are frequently moved from job to job without the opportunity to use the skills they learned in training, in the final analysis the training activity may not have been worth the money invested in it.

The Training Process Domain

Training process criteria extend Kirkpatrick's domain list. They are measures of what occurred during the assessment, development, and implementation of training. They form an assessment or audit of the training department as a whole. In a learning organization, everyone learns from their successes and mistakes. Criteria related to training efficiency as well as to its effectiveness are a matter of considerable concern as well as pride to the professional trainer. While ultimately less important than the workplace use of learning, the efficiency questions nevertheless address issues at the core of putting together a training program in the first place. After all, if a training program does not focus its participants on the right learning objectives, and help them learn these objectives faster, easier, cheaper, *more efficiently* than otherwise, then why bother with a training program at all?

Evaluating *programs* alone is not enough. The astute training manager will also evaluate the effectiveness of his/her *department* within the organization. The training department should, from time to time, evaluate whether or not it is:

- paying attention to the right issues
- playing its proper role as a staff resource to the management of its organization
- ensuring that its programs are on target, properly accessible, viewed as cost-effective and helpful

Thus, the trainer will want to evaluate programs in terms of questions such as the following: Does one kind of activity seem to foster learning more than another? What segment of the program worked best (worst) for this audience? Were any of the design objectives left unanswered? Were any objectives given too much time and attention? Were any stakeholders missed in the needs assessment? Are any organizational needs in this topic area omitted?

A workplace survey could be a form of departmental audit and can be approached precisely from that perspective. An appropriate sister department within the organization—another training group, the auditors, the communications/public relations people—any of these can perform a quality audit of the training department's work and reputation. An outside resource such as faculty or students in a college academic program in Human Resource Management or Business Education, a consulting firm, or even a training department in another company could be a source of services. The outcome of such an audit is a healthy, deliberately independent evaluative look at the training department itself, most especially its achievement (or lack thereof) of its own mission of right people learning the right things at the right time, all in terms of organizational need.

One-on-one interviews with trainees, their supervisors, organizational decision makers, and even training personnel could also be used to provide a rich source of qualitative data to be used to evaluate the training department. Interview data from key individuals who have content matter expertise, knowledge of the trainee group, or instructional design can describe training results. Questions including the following all lend themselves well to the interview format: Were the right trainees selected? Were the right topics trained for? Was the training program itself designed for the needs of the adult learner?

In addition, one-on-many interviews, or focus groups, can provide qualitative data that can be immediately verified by others in the group. The same type of questions posed earlier can result in rich data when the interviewees have an opportunity to discuss their impressions with each other as well as with the training evaluator.

Figure 3-6 shows a list of key stakeholders and their uses of evaluation results. It briefly summarizes, by criterion domains, what it is that training evaluation audiences need to know about training efforts along with examples of evaluation strategies. The methods listed are discussed in detail in the next chapter.

Guidelines for Using Evaluation Data

The *contingency approach* to evaluation strategies is "you do what is best under the circumstances." In other words, evaluation strategies are implemented based on the time, money, and people resources available, and often how useful the evaluation data are perceived to be. Ideally, training efforts are evaluated from many angles, with valid, reliable measures, and from many different approaches or strategies. In reality, the training professional plans evaluation strategies that take workplace constraints and opportunities into consideration. Based on the previous discussion, guidelines for planning training evaluation include the following:

- ➢ Make evaluation part of the training proposal.
- ➢ Ensure that stakeholders agree on criteria and understand their role in the process.
- ➢ Perform as many different evaluation strategies as feasible.

Remember that evaluation *is* feedback. Evaluation data have no value unless they are used. Back at the proposal stage, you identified needed evaluation data and how you proposed to collect those data. You worked with key stakeholders to determine what business decisions would be based on the data. You decided if data would be quantitative (numbers) or qualitative (words) or a combination of both.

Criterion Domains and Methods	Training Professionals	Trainees	Line Managers	Organization Decision Makers
Reaction Participant Questionnaires Observations	Ensure programs deliver planned outcomes. Ensure delivery skills of trainers.	Compare their reactions with others in the group.	Interested only if there are problems.	Not interested unless there are problems.
Learning Tests Simulations Observations	Establish that course objectives were achieved.	Serve as feedback that personal achievement resulted.	Established that employees learned new skills, tasks, or attitudes.	Establish a connection between organizational goals and training efforts.
Job Behavior Participant Surveys Management Surveys	Confirm that the right KSAs were identified.	Establish that new KSAs are appropriate for the targeted job.	Establish that learning was transferrable back to the job.	Confirm the connection between organizational goals and the transferability of training efforts.
Organization Results Department Audit Interviews Focus Groups	Provide evidence of the value of the training efforts to the organization's bottom line.	Establish that the learned effort was valued by superiors.	Basis for deciding whether or not to send other employees for trainings	Basis for determining the viability of the training function in the organization.
The Training Process Surveys Audits Focus Groups	Assess and modify needs assignment, design, and delivery stages.	Ensure participation in setting goals and identifying appropriate train solutions.	Ensure participation.	Ensure a connection between organizational goals and training efforts; probably not interested unless problems arose.

Figure 3-6 Key stakeholders and their uses of evaluation results

Therefore, when it comes to using data, be sure to go back to your initial questions and answer them.

Guidelines for using evaluation data are to analyze as much evaluation data (qualitative as well as quantitative) for decision makers as possible; provide reports (feedback), sharing credit for results; and hone your evaluation skills. Following is a discussion of each of these points.

Quantitative and Qualitative Data Analysis

Quantitative data are numbers; *qualitative data* are words. Data that are analyzed results in information. Evaluation data come from sources that include questionnaires, tests, observation guides, interview guides, and organizational records. You make sense of data by analyzing them in a manner that will provide useful information to those who need answers to key evaluation questions. Assessment areas may have included the classroom delivery skills of the instructor; the on-the-job, post-training behavior of training participants, end-of-course cognitive learning outcomes, and the like. Making sense of number data relies on the use of statistics. Making sense of word data relies on coding schemes and summaries. While quantitative data are often described as the most objective and therefore the most useful (test scores and questionnaire data), qualitative data may be equally useful or serve to further explain or confirm the quantitative data. Qualitative data can provide a richness of information that mere numbers cannot provide.

Evaluation Reports—Examples

Reading this book will not to make you an expert in evaluation; rather, its usefulness is to help ensure that you understand the role of evaluation in the training cycle and encourage you to learn more about this essential process. Assume that you, the training director, have data which assesses a newly-developed leadership development seminar. You are sitting at your desk, looking at stacks of end-of-course employee reaction questionnaires. Two months after the course, you interviewed a sample of trainees and their managers to determine what use they had made of the courses since then. A computer printout detailing end-of-course achievement tests is rolling onto the floor. Another printout of scores from a leadership style inventory given to the trainees is on the window sill. A videotape of the instructor delivering a unit of study is serving as a paperweight. What do you do?

Report to the Training Department

The training department needs to know if employees found the courses worthwhile and if the course resulted in employees learning and applying key concepts. Data for this analysis come from the reaction questionnaires, the end-of-course test, and the interview data.

To create useful information, reaction data could be organized by offering the averages of scores on the quantitative end-of-course reaction form and citing comments from the interview data as to the perceived longer-term effectiveness of the course. A listing of raw achievement-test scores, then separated into averages, means, and modes would provide a numeric or statistical description of the learning outcomes.

Report to Employees

The employees themselves want to know how their individual leadership style scores compared with both the test's norms and with their colleagues' scores. They are also interested in knowing how well they did on the objective test, which measured how well they understood the course materials.

You create a report for individual employees, made up of two key parts. One part offers the individual's leadership style score, and compares it to the group's and the test's norms. The second part is an overview in which statistical sense could be made of test averages, standard deviations, and percentile rankings. This allows each person to make comparisons of a broader nature.

Report to Instructor

Instructors want to know if their presentation styles were effective and if the materials used were helpful. Analysis of the videotape might require an observation guide or a simple checklist. Findings could be summarized in narrative or by providing scores for individual observation items. While you decide that the quantitative scores should be included in a printed report, you opt for oral, private feedback to the instructor. In addition, you give the instructor a copy of the videotape.

Report to Line Manager

Managers want to know if employees considered training a worthwhile experience, and if they actually learned anything from the experience and were able to apply it back on the job. To this end, you summarize data from reaction forms, compile interview data, and perform statistical analyses using the actual test scores. Whether the manager has access to individual scores by employee name or if the scores are tabulated anonymously is a question that was addressed at the proposal stage.

Line managers were ideally key players in the needs assessment and program design stages of the training program. In addition to thank-you notes, you give them credit for their involvement in the introductory part of your report. As managers often give the go/no-go decisions about training efforts, including their roles in the training report not only gives the manager a sense of ownership but makes the trainer more than just a deliverer of training programs. It highlights how training contributed to the achievement of organizational goals. Such joint accountability enables the trainer to become a key player in the overall organization.

Report to the Organization

Evaluation data are also a useful public relations tool for the training department as well as the company. At the completion of a successful training effort, you could put an article in the company newsletter or company videotape. You could use data as part of employee briefings. You could take data to staff

meetings where you report on the success of the program. Such public relations use of evaluation data serves to further the interests of the training department.

Honing Skills Needed for Evaluation

Ideally, the training professional takes the lead in evaluation efforts. It is a training department responsibility to make sure that evaluation appropriate to each phase of the training cycle is done properly. Training professionals coordinate the services and interests of others who have a role to play as well.

Depending on what is to be evaluated, the training professional relies on the expertise of others from inside or outside the organization. In evaluating subject-matter content, the trainer usually refers to the literature and/or other people. This may involve literature searches, including trade journals in the field of training and in the subject matter in question. Content evaluation usually involves people—professionals who can provide knowledgeable input to the topic(s) at hand. These professionals may work within the trainer's own organization, they may come from outside it. The need for this kind of contact is the best argument for professional networking and participation in benchmark studies where available.

Courses in qualitative and quantitative analysis provide the necessary skills to develop, understand and report data. Because data are only as useful as the data collection instruments are valid and reliable, the more the trainer knows about designing evaluation instruments, the better. Trainers often rely on measurement experts to actually design evaluation instruments. Depending upon the complexity of the skill, the intended audience of the evaluation report, or time factors related to ensuring that a valid, reliable instrument measures training outcomes, those trained in psychology and testing can be invaluable resources. The next chapter provides an overview of methods related to designing and using evaluation tools.

Summary

This chapter provided the *when, what, who, where, how* and *why* of training evaluation. Given the need to operate effectively and efficiently, training professionals must be able to determine that they are doing the right things right and be able to *document* training outcomes.

As part of the training cycle, evaluation is tightly coupled to the needs assessment stage. Outcomes of the needs assessment—knowledge, skills, and attitudes (KSAs)—provide the basis for identifying training goals and, therefore, criteria to be used to determine if training efforts reached those goals. Two useful

approaches were combined to offer a perspective on what needs to be evaluated: the grouping of criteria into domains, and identifying who needs evaluation data.

Five domains of training criteria were identified. *Reaction* refers to the trainee's perception of the training experience and its value. *Learning* refers to determining that content mastery occurred. *Job behavior* refers to whether or not the content learned was transferred back to the workplace. *Organizational results* describe how training efforts were linked to short- or long-term organizational goals. The *training process* domain included assessment of what occurred during the entire training cycle.

Training evaluation audiences—training professionals, trainees, line managers, and organizational decision makers—were described in terms of what evaluation data they would find useful. Each of these groups has distinct and different needs and interests related to evaluation. For example, training professionals want data documenting appropriate content and effective training delivery. Organizational decision makers want to ensure that training efforts matched organizational goals.

The training evaluation planner often relies on content matter specialists and experts in measurement in determining and developing appropriate evaluation measures. Tests, observations, interviews, participant questionnaires, secondary data, and workplace surveys are all commonly used evaluation instruments. The appropriate mix of these approaches depends on the resources of time, people and money, and on how useful evaluation data are perceived to be.

Because data have no value unless they are used, this chapter concluded by offering guidelines for using evaluation data. Understanding the nature of both quantitative and qualitative data, as well as methods of analysis is extremely important in using evaluation outcomes properly. Training audiences and decision makers must have data analyzed in a useful report format. Moreover, when report recipients participate in the needs assessment, design, or delivery of training programs, the acknowledgment of their contributions should be made clear. Shared accountability profits both the report audience and the training department.

Questions

1. What rationales do training professionals offer for not evaluating training efforts? Are these rationales ever valid? Why? When?

2. Assume that a needs assessment phase concluded by identifying a group of

employees who needed to learn project management skills. How would you, the training professional, go about identifying relevant evaluation criteria?

3. "The only criteria that really mean anything are criteria related to employee learning." Do you agree or disagree? Why?

4. Following is a list of criteria related to a sales-presentation-skills training program. Identify a different evaluation strategy appropriate for each item. In which evaluation domain does the strategy fall?

   a. ability to provide an overview of the company's products in five minutes

   b. trainees' perception of the value of the learning materials

   c. the program content was transferred back to the job

   d. the program content addressed the identified problem

   e. the relationship of the program to improved sales figures

5. Brainstorm evaluation strategies appropriate for determining the effectiveness of a program designed to make managers more sensitive to a culturally diverse workforce. Is answering this question more difficult to answer than the previous question? If so, why?

Applications

1. Interview a training professional with regard to how his or her organization contends with the need for evaluation. Share the trainer's comments with your classmates. Were practices consistent with those outlined in this text? Why or why not? What patterns (small vs large organizations; service organizations vs manufacturing organizations, and the like) do you see when comparing your data with classmates' data?

2. Review recent journals related to training and development, such as *Training, Training and Development,* and *Human Resource Management* to identify what authors in the field say about issues related to effective training evaluation. Summarize your findings in a brief annotated bibliography.

3. In small groups, construct a reaction domain evaluation instrument for the effectiveness of this class. Compare your group's instruments with others in your class. How are they similar or different?

Additional Readings

Jill Casner-Lotto. "Keeping Track of Training Quality and Costs: New England Telephone," Chapter 2 in *Successful Training Strategies*, San Francisco: Jossey-Bass, 1988, pp. 35-50.

This chapter is a case study that details the evaluation procedures of New England Telephone. It provides an excellent overview of evaluation activities.

Robinson, Dana Gaines, and James C. Robinson. *Training for Impact: How to Link Training to Business Needs and Measure the Results.* San Francisco: Jossey-Bass, 1989, 308pp.

This text provides a detailed, step-by-step approach to evaluation that links training efforts to organizational goals.

Endnotes

1. Lotto, Jill Casner and Associates. *Successful Training Strategies.* San Francisco: Jossey-Bass, Inc., 1988, p. 35.

2. The terminology "knowledge, skills and attitudes (KSAs)" is traditional. Measures of attitude do exist, however, and in the world of training they are translated into behaviors.

3. Robinson, Dana Gaines, and James C. Robinson. *Training for Impact: How to Link Training to Business Needs and Measure the Results.* San Francisco: Jossey-Bass, Inc., 1989.

4. Kirkpatrick, D. L. "Techniques for Evaluating Training Programs," *Journal of the American Society of Training Directors.* Vol. 13, 1959, pp. 3–9.

Chapter Four

Research Skills

Highlights

- Techniques for gathering data
- Methods for conducting observations
- Methods for conducting interviews
- Methods for conducting surveys
- Instrument development and validation
- Techniques of test construction
- Approaches to creating experimental research designs
- Suggestions for using research results

Acquiring Valid Data

GIGO: Garbage in, garbage out!
—Programmers' Motto

A wise consumer comparison shops for goods and services by evaluating quality, price, location, and service. Likewise, trainers seek the most effective methods of conducting needs analyses and evaluations. This means determining how best to obtain useful information upon which to base training program design and evaluation.

Once you have selected the method that will best get your needed data, how do you go about putting the method into practice? What is involved in designing an action-oriented (as contrasted with a formal) research study? To start, ask yourself the following questions: What data do I need? Where are the sources of the data? How do I go about acquiring them? How will I analyze them? And once this has been done, what does it mean?

The term *data* refers to bits and pieces of detail out of which *information* is derived; therefore, *information* is data compiled in a useful way. Thus data and information are *not* synonymous but complementary. *Decisions* are made from *conclusions* obtained from *information*, and information comes from *data*. This chapter will describe methods and tools used in the collection of *accurate, valid, and, reliable* data and how data combine to provide information that is of maximum use to all stakeholders: the training department, instructors, line managers, the trainees themselves, and organizational decision makers.

Needs assessment and evaluation are tightly linked stages of the Training Cycle. In fact, the evaluation phase of one project can become the needs assessment phase of the next project. Moreover, as discussed in Chapter 3, evaluation is an ongoing activity that takes place at all cycle phases. The training team continuously works to ensure that the right people learn the right things in the right way.

The essence of research begins with the definition of a problem to be researched or studied. This step is followed by identifying what is already known about the problem, and this in turn is followed by some *hypotheses*—educated guesses—as to the relationships between two or more variables. All research follows basically the same pattern:

1. Identifying the problem to be studied
2. Determining what is already known about the problem
3. Delineating assumptions about the problem (which leads us to educated guesses about the relationships which may or may not exist between the variables)
4. Choosing appropriate methods to collect needed data
5. Identifying or developing instruments that will result in the collection of accurate and valid data
6. Actually collecting the data

7. Making sense of this collection—what does it all mean?
8. Formulating conclusions and recommendations that resolve the original problem

Chapters 2 and 3 covered items 1 through 4 above. This chapter begins at point 5, and will describe a variety of assessment and evaluation methods to acquire useful data, as well as how to use these methods effectively. While many assessment and evaluation techniques exist, this chapter will focus on those most frequently used in organizational training environments: observations, interviews, questionnaires, tests, and experimental designs.

The Observation Method

Of all the data-collecting methods available, the most basic and potentially useful method is *observation*. Assessment by observation may be as simple as sitting down with a spreadsheet user and identifying instances where advanced features could be used. Or it may be as complex as designing a schedule where the researcher completes numerous observations of workers at their jobs. How simple or complex the observation process is depends on the questions to be answered and the value of the information gathered. To use the observation method, the researcher determines the type of activities to be observed, decides how to record observations, and creates an instrument that will systematically guide data collection and subsequent analysis.

Types of Observation Variables

According to Borg and Gall, three basic types of variables exist in observation research: descriptive, inferential, and evaluative. *Descriptive* variables are measured by using checklists to describe situations or events. Figure 3-3 in Chapter 3 is an example of a checklist used to observe an instructor. Descriptive variables, such as "resources used" and "voice and appearance," are relatively straightforward and if recorded accurately are relatively *valid*. *Valid* means that the observer's data truly measure what they are supposed to measure, not something else. Subsequently, when other raters who use the same checklist describe the same variables in the same way, the observation data are considered *reliable*. *Reliable data* refer to consistent, comparable data. Data that are valid and reliable are two requirements for the observation method as well as *every* research method used.

Descriptive variables, as this phrase suggests, describe a situation or event, and do not generally require major interpretations or projections on the part of the researcher; inferential variables do. *Inferential* variables take descriptive variables a step further. Inferential variables are developed by the researcher by drawing on past experience to make sense out of what is now being observed—what can be

inferred from the data collected. Some activities contain so many interrelated actions and behaviors that inferences are difficult, if not impossible, to make. For example, when evaluating instructor performance, the observer may be called upon to interpret facial expressions and body language to see if the instructor is encouraging or discouraging participation. Recording an instructor's defensive posture is descriptive. The recording becomes inferential when the observer infers from this behavior the instructor's uncomfortableness with the class or that the behavior reflects a degree of unpreparedness. It is inferential to interpret vocal mannerisms or tones to mean encouragement or disapproval. Valid and reliable inferences may be difficult for a single observer to make; therefore, it is usual to have multiple observers and/or observations.

Evaluative variables are the most complex of all observations. In *addition to* requiring an inferential reaction, the observer evaluates performance. For example, returning to the illustration of evaluating an instructor's effectiveness in the classroom, the observer may judge behaviors. Measuring the quality of responses to questions, for example, requires more skill than saying that an X-number of learner-instructor interchanges occurred. Therefore, a single observation by a single observer in a single setting cannot, on balance, provide the trainer with adequate, reliable, and/or valid data upon which to judge behavior.

Many firms that rely on customer contact use a type of observation called the "mystery shopper." This is an individual who observes, notes, and evaluates the nature and the quality of the contacts between a supplier and a customer. Mystery shoppers are found as travelers on airlines, as customers in bank queues, information seekers in brokerage houses, as diners in restaurants, and as retail shoppers. In short, they are found anywhere customer contact occurs and where their observations as to this contact are needed. They all, of course, use a form of observational checklist; however, due to the covert nature of this contact, the checklist is primarily designed to record more an evaluation of the event rather than the number or frequency of activities that have taken place. The next section describes strategies for recording data.

Recording Observation Data

Observational data take many forms, and recording these data in a useable format is important. Decisions are made on information derived from many data *points,* or observations; therefore, the recording method is critical if sense is to be made of what is collected. At least four different types of observational recording exist: 1) elapsed time recording; 2) frequency recording; 3) interval recording; and 4) continuous recording.

Elapsed Time Recording

Elapsed time recording reflects back to the scientific management approach of the early twentieth century and the work of Frederick Taylor. Taylor maintained

that an expert (he himself was an engineer), not the manager or the employee, should find the one best way to do a job. Scientific management was based on the premise that each task could be broken down into its smallest component parts, and then an expert could determine how best to complete the task and how long it should take. Workers could then be trained to accomplish the task the best way. Taylor is credited with being the first to use elapsed time recording where the observer, complete with stopwatch and checklist, records the amount of time it takes a worker to complete a specific task. Today, the computer may substitute for the paper checklist, but the concept of elapsed time recording is still used.

Elapsed time recording yields quantitative data that are relatively descriptive and, therefore, relatively reliable. For this reason, the method is often used for certain types of tasks that lend themselves to observation. Workers commonly tracked via elapsed time recording include order takers for home shopping networks, stock and bond inquiry clerks and order takers, and airline and hotel reservation clerks. However, extraneous variables often account for wide variations in data. The time of day, the day of the week, and even the month or season could result in a range of data. The home shopping network order takers are likely to be much busier in December (Christmas and Hanukkah) than in August, when many people are on vacation. Other complicating variables are the personality of the caller or the degree to which detailed information is required—on either the part of the employee or from the caller. Yet another variable might concern the type of equipment involved—PBX, touch-tone, dial, headset, and the like. Downtime, 800-numbers, and "please hold" announcements all could influence these observations and thus impact the data noted on the observer's checklist.

Frequency Recording

Frequency recording is determining the number of times that the telephone user or the target individual performs a specific activity. Most frequency observations are best done under conditions of short time duration with relative stability or consistency in the activity. More complex behaviors can be observed; doing so just takes more time and effort. The more expert or experienced the observer is in the activities being recorded, the more easily behaviors are to identify and, thus, record. For example, a former telephone operator may have a sense of the type of call being answered; a former teacher, a sense of the nature of a classroom observation; and a former production supervisor, a sense of the assembly line activity performed. The more complex the behavior, the more important it is that an experienced, knowledgeable observer do the rating.

While these illustrations all show an observer tallying certain types of data, there are also instances where individuals keep track of their own activities. For example, how many calls come in to the help line in a three-week computer-mediated training course? How many times are customer service representatives unable to

answer customer questions? Data about these kinds of questions can easily be captured on time and document logs maintained by the workers themselves and provide valid, reliable, *self-evaluation* data.

Interval Recording

Interval recording usually takes the form of observing target individual(s) at specific time intervals. Using interval recording the recorder would observe specific periods of time, say five minutes out of each hour over a one, two, or three-day period. If consistency is noted—that is, if the same actions occur within that observed period over a block of time—the observer might be able to conclude that those behaviors are typical. The difficulty of interval recording, however, is that peaks of high volume and valleys of low volume activities may not happen during the observation period. Observed activities may thus skew the categorized data in one direction, or activity flurries may not be observed and recorded at all. On the other hand, interval observations make an effective use of time when the observer is recording the behavior of multiple individuals.

Continuous Recording

Continuous recording is noting all the activities or behaviors of the target(s) throughout an entire observation period. For example, if you wish to determine what tasks an employee engages in during a normal day, you would, of course, have to observe him/her throughout the entire day and record each task performed. This is usually done during the exploratory or opening phase of research to determine patterns or significant clusters of actions during the observation period. Continuous recordings result in the development of categories useful for developing observation guides.

Using the Observation Method

The observation form itself largely determines not only what is observed but how it is observed. For this reason, the form is critical to the observational process and must be carefully designed *and* validated to make sure that the data you collect are accurate and valid. Many samples and styles of observation forms are available from commercial sources; however, the best form is one that you design for your specific purpose. An illustration of a *partial* observation checklist is provided in Figure 4-I below, used to observe a new training instructor.

The Observation Form

To create an observation form, first decide on what you wish to observe. Second, determine how you want to observe it (in-person, covert, videotape). Third, list the questions or items you need to record, referring to your first step. Fourth, pilot the form with an actual observation to see if the form actually does what you want it to do. Finally, revise the form accordingly. These steps, of course, have

Instructor Observation Checklist (partial)

Name of Instructor_____ Date of Observation_____

Class Observed_____ Course/Module ID_____

Number of Participants_____

1. Instructional aids used (number and type) _____
2. Interactive questioning involved (number and type) _____
3. Medial summaries used for each topic (number and type) _____
4. Mannerisms noted (positive)
5. Mannerisms noted (negative)
6. Others . . .

Figure 4-1 Sample observation checklist

many subparts; however, the essence is to design a form that can be used to gather the needed data most effectively and efficiently.

One way to reduce the problems related to observer interpretations and to cut down labor costs is to consider audiotaping or videotaping behaviors. Audiotapes and videotapes provide a running commentary of the observed phenomena, to which you can return time and time again for consistency. Videotaping provides additional value because you can focus on the precise activity desired during the observation. Remember, when doing any type of observational study using tapes, you must be responsive to the ethics of observational data collection. Permissions from those being observed must be acquired. Remember that if you, as the observer, influence or impact the observed in any way, your data may be contaminated and, thus, of little value.

Computer-assisted Observation

Computer-assisted observation is a relatively new concept, which involves the computer as a method for data collection. For example, a computer report can easily track the number and type of software features people use in doing on-line data searches. Such data can be incorporated into training designs to ensure that the most frequently used commands are taught to new employees. Computers might also record data showing that some employees are using only a small set of the features that they *could* be using, and could thus benefit from additional training classes or the development of a users' group.

Keep in mind, however, that these computer-based observations/data collection procedures must be openly announced and explained lest they be interpreted as big brother employer keeping tabs on employees. How you approach this issue is critical to the success of all of your data-gathering activities. When acceptance and approvals are acquired, the computer can be an invaluable aid in collecting, tabulating, and even (later) analyzing data.

The Interview Method

Interviews are meetings between an information gatherer and an information giver. Interviews can be conducted face-to-face, via the telephone, or in a group (focus groups). The key to success in using this method is identifying the right people to interview, knowing what information is needed, and designing a good interview guide. Observation data can provide a framework for developing interview guides, ensuring that the right questions are asked of the right people.

Types of Interviews

Interviews can be open or structured. Open interviews are exploratory and are used when only a small number of interviewees are needed; almost all resultant data are qualitative. Structured interviews are primarily based on questions that require yes/no and other specific answers. Whether the interviews are open or structured, the interviewer should use an interview guide that ensures that the right questions are asked and allows data to be interpreted easily. A guide also serves as a means of ensuring data that can be compared among respondents. Conducting interviews takes skill and practice; however, the steps and sequence of interview research involve the same procedures used in the observation method. Following are guidelines for using the interview method, with an illustration of applying the method to a perceived problem.

Using the Interview Method

Step 1. *Articulate the purpose or problem to be studied.* The first step in using any research method is to identify the problem to be studied. It must be assumed that the problem *can* be answered through the interview process. Data from previous assessments and evaluations must be reviewed to ensure that the organization has not already answered the question.

Step 2. *Select the sample to be interviewed.* Select the individuals to be interviewed carefully to provide a range of responses and not just those willing (or eager) to participate, as they may not be the most appropriate subjects. Avoid this trap: "Why not interview Harry? He is between projects this afternoon and has nothing pressing to do." Another bit of advice is to include as many stakeholders as possible. As discussed in Chapter 1, participation in the assessment stage is highly related to success in the implementation stage.

Step 3. *Design the interview guide by determining the major points, questions, and sequence of the interview topics.* An interview guide should be neither too long nor too short. Its purpose will determine if it is to be open-ended or structured. One way to develop an interview guide is to brainstorm questions you'll need answers to, and then structure or cluster the questions into a logical order. Remember, the guide should focus on objectives and outcomes desired. Figure 4-2 illustrates a partial sample interview guide.

INTERVIEW GUIDE

Name and Position of Subject_____ Date_____
(attach business card if possible)

Location of Interview_____ Telephone_____

Subject of Interview_____

Topics and/or Questions

1. How large is your Sales Department? Is it growing, shrinking, or steady state?
2. What has been your experience with the training conducted for members of your staff? (positive/negative/neutral/unknown—and to what degree)
3. In what cases has training been effective? How did you measure this effectiveness?
4. In what cases has training been ineffective? How did you measure this?
5. What products does your staff find the easiest to sell?
6. What products are the most difficult to sell?
7. Where do you see the gaps in your staff's effectiveness that the training department might be able to fill?
8. Others . . .

Figure 4-2 Sample interview guide (partial)

Step 4. *Pretest your interview guide by conducting pilot interviews with similar individuals to determine the validity, accuracy, reliability, and shortcomings of the interview.* Developing a good interview guide takes time and practice and often many revisions. Pretest your interview guide by asking people who reflect your target group to help you test the interview guide and procedures. In a tryout, you can determine if questions are worded in a way that will result in useful data, and you can practice or test your skills as an interviewer. You can also see if your note-taking ability is adequate or if you might need to audio- or videotape the interview. The tryout interview also serves as a way to determine how much time an interview will take as well as the difficulties in asking questions or keeping the subject on track. How do you get beyond what the interviewee is saying to capture what is being *meant* rather than what is being *said*? Most important, can the questions you really need to have answered actually *be* answered?

Step 5. *From the pilot data, develop and refine a coding or tabulating method that will allow you to arrange and categorize responses.* The tryout session also provides you with data that can be used to form your coding and analysis structure. Since interviews frequently result in lengthy transcripts (qualitative data), what type of coding will you use—key words, phrases, images, themes? Should quantitative data also come out of the interview, how will you compile or tabulate these data so they are useful? Many interviewers find coding to be the most difficult step in the interviewing process. Coding responses to a thirty-minute interview may take longer than the interview itself. At the problem development stage, you decided on *what* data you needed—key themes or issues; important processes, and the like. Coding may be done by looking for key phrases, which occur throughout the interview. Coding may also be done by listing the specific issues you wish to identify through the interview.

One of the most effective methods of interview coding involves listing your desired outcomes—your interview goals—as column headings across the top of a large sheet of paper in a coding matrix. For each row down the left-hand side of the page, identify the specific question(s) you intend to ask which you hope will get at these goals or objectives. As you review your notes or listen to your tape recording, fill in the blanks accordingly. You may have to read between the lines from time to time; however, after a few tryout sessions, you will become more comfortable with this process. Data reduction skills are developed over long periods of trial-and-error experience, so do not be discouraged if your first efforts do not produce the hoped-for results. Time and experience will hone these skills to where you will become an expert in the process. A sample of a coding matrix appears in Figure 4-3.

Step 6. *Collect data by conducting interviews as scheduled.* When scheduling an interview, it is important to make sure that the concept of timeliness is maintained. Since many interviews attempt to get at time-sensitive issues that your training ef-

Questions	Types of Products	Training Needed	Time
1. What new products will your department have to sell in the next two years?			
2. What training will be required for your sales staff in the next two years?			
3. How many *new* sales staff members will need orientation training in the next two years?			

Figure 4-3 Interview coding matrix

forts must address, request and hold interviews as soon as possible following the approval to conduct them. Since interviews generally are best held on the interviewee's home turf, you may have to make arrangements for tape recording or videotaping ahead of time.

Plan to conduct interviews at a time when the least amount of interruptions occur; however, be prepared for interruptions nevertheless. Be sensitive to posturing on the part of your subject and keep the focus on the subject(s) set forth. Try to differentiate between facts and opinions and avoid inserting your own ideas into the interview process. Finally, make sure you ask your subject for any final comments. It is at the end of the interview when rapport has been established, that the interviewee may provide the most valuable data. Also, remember to thank your subject for the interview, gather up your materials, and depart on good terms. Since it is likely that you will need additional information or clarification of some of the discussion later, leaving on good terms is crucial to your success in the interview.

Step 7. *Analyze and interpret the results of your interview.* Following the interview, assemble your materials and begin to analyze the details as soon as possible. A good deal of interpretative data may be contained in the interview activity—impressions, body language, setting, and tone—all of which will fade with the passing of time. Transcribe notes or tapes as quickly as possible and search for themes and

answers to questions. If you have questions about gaps or interpretations from the interview, contact your subject for clarification as soon as possible. Do *not* wait until a complete series of interviews has been completed before transcribing and coding data.

When you have completed your interpretation matrix (if that is what you have created), summarize your findings and conclusions and come up with recommendations based on the interview(s). Ask yourself what can you learn from the results? What training programs need to be developed? If your investigation was part of an evaluation of the training department's effectiveness, which programs might need to be created, revised, or deleted? Make recommendations for the next steps in the process. Figure 4-2 illustrated a portion of a sample interview guide.

Despite the complex issues involved with interviewing, it is one of the best ways to gather valuable and rich information needed to focus on the answers to a problem. Many researchers use a selective interview process both before gathering survey data to ensure that they are asking the right questions on the questionnaire, and after gathering survey data to add meaning and depth to the responses received from the questionnaire. The use of surveys and questionnaire design skills are discussed next.

The Survey Method

When data are needed from a large number of people or when time and expense does not permit observations or personal interviews, a written or printed questionnaire (and sometimes even an electronic-mail based questionnaire) can be used. As in observation and interview research strategies, the researcher begins by defining the objectives of the study. This section will cover some of the essential elements in the survey method: designing and validating questionnaires, selecting the people who can give you the data you need, and developing follow-up strategies.

Types of Surveys

Surveys are very helpful in acquiring a great deal of data from a large group, even though only a small number of them need to be selected to receive the survey form. The survey method includes a well-designed questionnaire, previously validated and tested, in order to obtain these data. From the results acquired, generalizations can be made for this larger group. As previously mentioned, surveys may be mailed, computer-generated and e-mailed, or they can be in-person contacts, similar to "mall intercepts" where individuals or families are stopped and queried as they move through a mall or shopping center. Data acquired through the survey method can then be correlated with demographic variables such as age, gender, ethnicity, etc. to provide a picture of the larger group to be examined.

Using the Survey Method

Step 1. *Identify needed data.* What data are needed? By focusing on identified objectives, you will be better able to construct a questionnaire that addresses these specific issues. These objectives can be generated through needs assessments, observations, and interviews.

Step 2. *Determine who has the answers to your questions.* Unless you have access to everyone to whom your research results will apply, you will have to select a sample group from a larger *population.* Population is the term used for the entire group that you want to target—your department, your site, your entire organization. One of the critical elements of research is that when you send out a questionnaire to gather data, respondents must reflect the views of the larger population. If your population is small, a department for example, you may be able to access everyone. If however, the size of your group is large—your organization for example—you will need to identify a *sample.* A sample is a smaller group that reflects the characteristics of the larger population. This means that you cannot use research results from one department and then generalize the results to everyone in your organization. Not all departments operate in the same manner and individuals may not be similar. Drawing a sample which reflects the larger population, however, is critical if data are going to have any meaning to your larger audience. If you are using a sample, it is best if you can acquire this sample through *randomization.*

Randomization means selecting individuals on a pure chance basis. This means that everyone in your population has an equal chance of being selected. Randomization helps ensure that the individuals who are asked to respond to your questionnaire reflect the characteristics of individuals in the entire organization. Techniques for randomization include picking names from a hat, using a table of random numbers, or using a computer program to generate a random list.

Step 3. *Design the questionnaire.* Once you find out what you need to know and from whom the answers will come, you can then turn to the development of the questionnaire instrument itself. One of the first major caveats in questionnaire design is to avoid reinventing the wheel. This means that before you put pen to paper—or fingers to computer keyboard—you should check the research literature and your company files to see if a data-gathering instrument or questionnaire already exists that will do the job you want. While there are thousands of valid and reliable questionnaires out on the market, it is doubtful that one exists that meets your exact needs; however, to save time and to make sure that you are *not* reinventing the wheel, check these resources first.

When measuring broad constructs such as organizational culture or group behavior, it is useful to check references for tests and measures already in print: *Tests* and *Test Critiques,* edited by Sweetland and Keyser, and Keyser and Sweetland respectively, both published by Test Corporation of America; and the *Ninth Mental Measurements Yearbook,* edited by Mitchell, are two examples. These reference books

list and describe hundreds of test instruments in the marketplace, their background, previous use, reviewers' comments, and validity and reliability figures.

The advantage of finding such an instrument, of course, is manyfold. You will have a validated instrument that you know does what it is supposed to do, is already in print, and is available at a lower cost than would be possible if created from scratch. The disadvantage is that what you find may not mesh *exactly* with your objectives; it may be too long for your practical use and it may be too complex for your population or sample under investigation. On balance, however, by checking out these reference guides, you will at least know what *does* and what *does not* exist—and that alone may support your next task of questionnaire development.

Assuming that no instrument does exist, you are now ready to begin drafting your questionnaire, and for the sake of illustration, assume that your objective is to determine the attitudes toward training within your organization. What questions will you need to ask? For example, what do former and current participants think about their training experiences? Can they translate this training into greater job-related efficiencies or effectiveness? Did their training result in higher productivity? Higher wages? Greater responsibilities? Did they have a good experience and would they return for more training if the opportunity arose? Do non-participants have a favorable attitude toward training and the training department or staff? Do non-participants at various levels hold similar attitudes (positive, negative, or neutral) toward training?

Once you have drafted a number of these basic questions, the answers to which you will need to know, what other information will you need or find helpful? This "other" information may include questions relative to gender, time on the job, age, salary and position, education, etc. This information will provide you with relationships between these variables and your sample's responses about their attitudes toward training. You may, for example, find that younger employees have higher positive attitudes toward training and that among those employees, women are especially enthusiastic. You may also find that salary levels and the nature of the job may correlate highly with their assessment of training attitudes. You will need all of this information to make a judgment concerning your future approach to training in your organization.

After a draft of your questionnaire has been completed, your next step is to make sure that you have not missed any critical issues or forgotten to ask essential questions. This is why you should next submit your draft to a small panel of experts. This panel can number as few as three or as many as nine, as odd numbers are better to avoid ties in their evaluations. This panel, of course, should have some expertise in the objectives of your questionnaire and be able to provide an evaluation of the contents of your draft. They will, no doubt, add questions, delete others, and make suggestions concerning the wording and sequencing of items. The

panel can also provide input as to the nature of the questionnaire responses: Will you use a separate response sheet? What type of response will you anticipate? Are your responses a yes-no type or spread across a Likert-type scale of from 1 to 5; and if so, what titles or codes will you give to each number? These questions, and more, should be addressed by your panel of experts. Figure 4-4 provides a template which may be useful in guiding questionnaire development.

Step 5. *Field test, then distribute the questionnaire.* Once you have the panel's responses and have incorporated them—to whatever degree you feel or find important—your next step is to pilot or field test the revised instrument. This means that you will select a small group, similar to your sample, and administer the questionnaire. This is done to identify any problems with the distribution and return of the instrument, the nature and type of responses given, problems relative to ambiguous or vague questions, and the like. The pilot or field test will provide you with the last step in validating your questionnaire before you distribute it to your sample.

All questionnaires should include a cover letter that explains the nature and importance of the survey. The letter should explain why the individual was targeted to receive the survey, deadlines for responding, and who to contact for answers to any questions about the survey form. You may need to conduct one or more follow-up mailings or individual contacts to get respondents to reply. It is a good idea to plan for this ahead of time by coding survey forms to allow for follow-up efforts. Confidentiality of responses should be expressed in the cover letter as this will enhance your response rate.

Step 6. *Analyze and interpret the data.* Once you have conducted the follow-up work needed to make sure your responses are sufficient in number and the forms are now piled high on your desk, your next step is to determine the total scores and averages for your demographic questions, and the same plus standard deviations for each attitudinal question.

Average scores are called *means.* The midpoints of each range of scores are called *medians.* The most frequently reported score is called the *mode.* These terms reflect the clustering of responses and together provide a picture of the group as a whole. *Standard deviations* are numbers that measure the distance a score deviates or is away from the average. Large deviations might suggest areas for further examination, as they show where a lack of agreement occurs. Small deviations suggest a homogenous sample with most of the scores clustering about the average or mean score.

The next logical step may be for you to look at how certain responses relate to other responses—for example, do gender, age, or education differences show up on certain responses or do they correlate with other responses? This information is important if you are to design a training program to meet the needs of different populations who may have very different interests and objectives. If you have

Questionnaire Template

DIRECTIONS: (This is where you briefly outline how the respondent is to go about completing the survey, any unusual items or actions to be taken, *and* where the survey form is to be returned. In many cases, an accompanying letter or memo will give this latter information as well as outline the nature of the survey, who has authorized it, the level of confidentiality to the respondent, and to what purposes the results will be used.) Note: this section may also appear at the end.

DEMOGRAPHIC DATA: (This is where you ask the questions dealing with the respondent's title, organizational position, years of service, gender, age, education, and other details *that are necessary* to get at the objectives of the survey. Do *not* ask questions that are personal in nature or ask for data not intended to be used.) Note: this section may also appear at the end.

BODY OF THE QUESTIONNAIRE: (This is where you ask for responses to the specific questions or issues you want. When many questions are posed—and remember to keep them as short, simple, and uncomplicated as possible—you may want to divide them into smaller segments or parts, each having a heading that identifies the nature of the questions to follow. Leaving space for open-ended responses that may not be asked by a single simple question is always a good idea; however, you must plan ahead on how you will tabulate and use them. Sample questions are provided below:)

Categorical-type question

I. How many people do you supervise? _____

or

I. How many people do you directly supervise? (circle one)
a) none; b) 1–6; c) 7–20; d) 21–50; e) more than 50

or

I. How many people do you directly supervise? (place answer in block to the right)
a) none; b) 1–6; c) 7–20; d) 21–50; e) more than 50 _____

Likert-type question

Rate yourself in each of the following categories by circling the number that best describes your self-assessment.

1 = I do this *very* well—no help needed
2 = I do this OK most of the time

(continued)

3 = I do this about average
4 = I could use a little help here
5 = I could use a *lot* of help here

1. Orienting new employees 1 2 3 4 5

or

Rate yourself in each of the following categories by placing a checkmark on the line in the position that best describes your self-assessment.

(same categories as above)

1. Orienting new employees 1 2 3 4 5

(As you can see in the first example above, by asking for a certain number to be circled, you get one specific response. In the second example, by asking for a checkmark on the line that best indicates the respondent's self-assessment, you may have to make judgment calls when such responses fall between numbers—which they will. Both illustrations have advantages and disadvantages.)

END OF QUESTIONNAIRE: (This is where you provide space for any open-ended final comments, thank the respondent for his/her help, and say where and how the questionnaire should be returned. You should also provide your name and telephone number to provide for any respondent questions. Finally, make sure you include, in bold type, your requested response date. It is almost always a good idea to offer a summary of the results as a response benefit in order to get the results back and in a timely manner.)

Figure 4-4 Questionnaire template

a computer these tabulations are as simple as entering the data and asking the computer to perform one or more of these relatively simple statistical tasks. Once you (or your computer) have performed as many calculations as you feel necessary, it is then time to go back and answer your original questions.

Testing

A *test* is a measure of how well someone does a specific task or what they know about given content. The researcher who uses tests, just like other measures,

must take care to ensure that the test is both valid and reliable. Care must be taken in planning a test and in constructing individual items. Care must also be taken in preparing the test for use, administering it, and scoring the results. The purpose of this section is to briefly overview written test considerations.

Types of Tests

Tests are used for many purposes. The training professional must first know what the results are going to be used for. Prior to a training effort, tests may be used to determine the knowledge level of a target audience (placement); during a training activity, a test may be used to evaluate learning progress (formative) or to identify learning problems (diagnostic); and at the end of training a test can be used to determine the learning that occurred (summative). Once you have made this important decision, you can begin the process of test development and use.

Creating and Using Tests

Step 1. *Record test items.* The test developer begins with the list of objectives, the expected outcomes of a training experience, and an outline of course content. The test developer often uses a table of specifications, a chart that works as a test blueprint. Figure 4-5 is an example of such a table for a course in banking principles.

Choices are made at this time as to whether traditional true/false, multiple choice, or essay questions are appropriate.

Step 2. *Review and edit test items.* The table of specifications helps ensure that major topical areas are covered and that test items are developed to measure each of the objectives. The reviewer of a test has a dual purpose: to ensure that the test is valid—that is, it measures what it is supposed to measure—and to ensure that the test questions are clear and unambiguous.

Step 3. *Arrange the items in the test and prepare directions for the test.* Test item arrangement may impact the results of the test. By placing objective true-false questions first followed by multiple-choice questions, the test-taker is moved from the simple response to the more complex. Likewise, moving from the easier questions to the more difficult questions is a positive test motivation factor. Essay or short answer questions and problems should be left to last on a multiple-section test; however, participants should be directed to allocate their test-taking time with this in mind. Finally, it is a good idea to weight the test items according to their difficulty and importance. A true-false question, for example, should not receive the same weight as a short-answer essay question.

Step 4. *Administer and score the test.* Test administration should be as carefully done as the development of the test. Make sure that your participants are comfortable and settled in prior to distributing the test. Ensure that insofar as possible, pressures as to the outcomes of the test are reduced or removed. Provide all

BEHAVIOR	Financial Statement Design	Framework for Financial Analysis	Types of Ratios	Totals
1. Describe the format and contents of basic financial statements.	2 items	1 item		3
2. Determine the earning power of a company using established techniques.	1 item	3 items	3 items	7
N (continue) . . .				40
Total Items	10	20	20	50

Figure 4-5 Table of specifications

necessary materials prior to the distribution of the test so that all begin at the same point and with the same resources. Likewise, provide all directions and answer any questions before the test begins and be available for questions during the test. The attitude of the test administrator has a great deal to do with the results of the test. A confident, comfortable, and relaxed environment will provide the most reliable and valid data as a result of the test experience. Figure 3-4 is an example of a test on banking principles. Note that this test was a *group* test, measuring a group's understanding of concepts. Such a test is a teaching or reinforcing device and may be diagnostic rather than summative.

When scoring a test, take the time to review responses for each question. This is called conducting an error analysis. If a substantial number of participants miss the same question, it is likely that it was either missed during the coverage, too difficult to answer correctly, or worded incorrectly. It is also possible that your key may be inaccurate, as well. In such cases, you may want to discard the question. In any event, use the test not only to measure what has been learned but also use the test as a teaching device for the next session or course. Keep in mind the purpose of the test—is it placement, formative, diagnostic, or summative? The answer to this question defines the use you will make of test results. A test is a useful tool to measure participant outcomes, but is not the only method in the trainer's evaluation tool kit.

Experimental Methods

Emily Owens and Don Cortez, trainers with XYZ company, are considering two methods of training and want to know which of the two will provide better results. Owens has used the direct, instructor-oriented, hands-on approach before and feels intuitively that it is effective; however, Cortez says that he has found good results with self-paced independent study. The problem they face is that while both types of training have proven effective, little hard data exist to provide comparisons of their relative effectiveness in this organization. Instructor-directed training is expensive; however, Owens knows that the personal touch can be very important to achieving desired learning outcomes. Cortez, on the other hand, reports that since the trainee is already motivated to learn, self-paced study is better as trainees can learn at their workplaces on their own time. Self-paced training also reduces the expense of traditional classroom instruction.

Owens and Cortez may find an experiment to be the best way to collect data that would be useful in solving their dilemma. *Experimental designs* are research experiments that look at outcomes after a certain *treatment* (in this case, a training program) has been presented or interjected into a setting. An experiment would compare the results of an intervention on a selected group or cluster of individuals. For example, they would want to determine the learning effects of each of the instructional methods: What was the impact of offering training via independent study as compared or contrasted with traditional group instruction? What do individuals think the impact might be on their performance evaluations? What would be the lasting effect of any treatment even if short-term gains were observed? What differences do such variables as gender, age, experience, education, or previous training have on achievement or productivity? These questions all can be considered through the conduct and evaluation of experimental designs.

However, because of the number of variables that must be controlled in any experiment, the training professional probably does not use a true experimental design to assess differences between treatments in the workplace. For one reason, it is difficult if not impossible to control every facet or variable between two or more groups involved in an experiment. Location, lighting, interruptions, resources, time, and other conditions simply do not lend themselves to the rigid controls necessary for a true experiment to take place. However, this is not to say that one cannot conduct an experiment in the workplace; the contrary is true as long as one takes into account how these uncontrolled variables may affect the results. For example, if you want to determine the effect of classroom versus video training in your office site prior to institutionalizing the program, an experimental design can be useful.

Using Experimental Designs

This section briefly describes five of the most common experimental designs: post-test only design; pre-test, post-test design; two group pre-test, post-test design; four-group designs, and time series. The difference among the designs is the effort involved in controlling for extraneous variables. In other words, the more controlled the experiment, the more you can say that outcomes were a result of the treatment (in this case, the specific training effort). Keep in mind that each of these designs is also considered *quasi-experimental* design due to the inability to precisely control variables that may impact the results. Designs are generally illustrated using the terms observation (O), and treatment (X). Thus an illustration O_1 X O_2 would mean an initial observation or pre-test, O_1; a treatment or intervention, X; and a second or follow-up observation or post-test, O_2.

Post-test Only Design

The post-test only design shown below is used whenever a pre-test is not possible

$$X\ O_1$$

or feasible. An example of post-test only design would be in the case where the traditional training was offered and a single follow-up evaluation was conducted. The learning outcomes measure individuals' learning or reaction to the instruction but cannot determine if outcomes resulted from their experiences participating in the program or the interaction itself. The mere novelty of a new program and the attention received by being invited to attend may, by itself, result in general satisfaction and not be ascribed directly to the training program itself.

Pre-test, Post-test Design

The pre-test, post-test design shown below can compensate somewhat for the

$$O_1\ X\ O_2$$

post-test only design as it provides for a pre-test observation—for example, to measure understanding attitudes toward the traditional program *before* it was offered. Following the training program, a post-test observation—for example, the same or a similar measure to the one used prior to the program—can determine if changed understanding or perception has occurred and to what degree that change has occurred—either more or less favorable—as compared with the earlier test results. Obviously, a wide variety of influences may impact on the results of *either* of these tests or observations, and these influences may cause an erroneous reading of the results. In experimental research a general rule is that the more control you have over the variables, the more you can trust your results. This example becomes more valid as your research designs become more sophisticated.

The disadvantage of the single group pre-test, post-test design is that you

cannot tell if the resulting achievement was truly the result of the intervention and not some other reason—such as maturity (or aging) of the subjects, the sensitizing impact of the pre-test, or some other uncontrolled element. One of the more common containments is the presence of the pre-test itself, which may serve to sensitize the subjects to the post-test, thus artificially inflating the results. One way to compensate for this is with the two-group design.

Two-group Pre-test, Post-test Design

One way to compensate for possible pre-test sensitization is to involve two separate groups, both using a pre-test and post-test; however, only one group would have traditional instruction, and the second group would receive the self-paced program. This design, of course, demands a larger number of individuals for the two groups, and both groups must be as *comparable* as possible. The two group pre-test, post-test design appears following:

$$O_1 \; X_a \; O_2$$
$$O_1 \; X_b \; O_2$$

One group is termed the "control" group—that is, the treatment consists of the traditional training program and the other group is termed the "experimental" group—in this case, the group receiving the self-paced instruction. Both groups are comparable and received the same pre-test. Both groups also receive the same post-test to determine their perceptions of instruction. If both groups are equal to begin with, any differences in outcomes—understanding, attitudes, or whatever—would be important and you can consider differences to be due to the treatment. Of course, it may happen that there is *no* difference, which would mean that both training program have equal results, and that either could be used with equal effectiveness.

When we look at differences in outcomes with this design, we may see differences in numeric measures; but are these significant differences? A number of statistical measures exist to determine if these differences are, indeed, significant or too small and/or due to chance. It is also important to keep in mind that what may be statistically significant may *not* be meaningful. That is, differences of statistical significance may appear in your findings but these differences are not sufficiently meaningful to warrant any changes in your operating procedures. An example of this is that you may find that you have a 5 percent difference in attitudes concerning the implementation of the self-paced study and only a 2 percent difference in attitudes from the traditional group. Is this difference sufficient to make a major decision on continuing the traditional classes? Is this difference sufficient to make a decision to *not* offer the traditional classes? Probably not. Of course, this is an oversimplified illustration; however, it does point out that what

may be meaningful may not be statistically significant and what may be statistically significant may not be meaningful.

Four-group Design

The final formal experimental design to be discussed here is the four-group design, commonly called the "Solomon Four" design because it uses four separate but comparable groups and is intended to compensate for most potential contaminants—maturation and pre-test bias or sensitivity. The four-group design is shown following:

$$\begin{array}{ccc} O_1 & X_a & O_2 \\ O_1 & & O_2 \\ & X_a & O_2 \\ & & O_2 \end{array}$$

This design has been simplified to show only the experimental variable (Xa)—the self-paced study—and assumes that the other two groups receive the traditional treatment. As you can see, the effect of this design is to compensate for any pre-test bias as well as for different treatments. Should scores be higher for the first and third groups, there is added assurance that the treatment *was* effective and scores were not contaminated by pre-test sensitivity since group three was never exposed to any pre-test. If the scores for groups two and four, on the other hand, are higher, you can feel comfortable that the traditional treatment was more effective and also not impacted by any pre-test bias.

The four-group design, of course, is much more difficult to use as four separate but equal groups must be assembled and all other variables that may contribute to contamination are held equal—a difficult if not impossible task in and of itself. In addition, if statistical treatments are to be incorporated, sufficient numbers of individuals within each group must exist, which makes this design not only difficult to incorporate but to manage as well. On the other hand, the results from this powerful design are substantial and for this reason, should numbers exist and be available, this design has much to encourage its use. In the training environment, the more important the training program is to the organization's goals, the more care should be taken to insure that it is the *right* training.

Time Series

The time series design is merely a variation of the previously-mentioned designs. All of the foregoing designs may incorporate the time series element to identify long-range effects.

In experimental research projects researchers find that their experimental treatment works or does not work. If it works, they find their answer, report it, make recommendations concerning it, and then move on to another research

activity. Only rarely will they look at the long-range effects of their treatment. However, findings *are* impacted by the subject knowing that he or she is involved in a research project, the uniqueness of the environment, and/or the attention paid to the activity itself; inadvertent contamination or bias may occur. What, then, is the long-range or long-term effect of experimental findings? There is a relatively simple way to determine long-term effects, if any, and this is through the use of a time series design. A single-group pre- and post-test design involving a time series appears below:

$$O_1\ O_2\ O_3\ O_4\ X\ O_5\ O_6\ O_7\ O_8$$

As can be seen here, you take a number of observations (or pre-tests, if you will) prior to the insertion of the treatment variable, in this case self-paced training. Following the observation immediately following this treatment (O_5), you can determine the *immediate* results of the intervention. However, unless you make additional observations, it will be impossible to know if the treatment results were, indeed, lasting. Two, four, and six months later, for example, did the self-paced group remember what they had learned? By making multiple observations prior to the program, in addition, you can determine the benchmark progress of the individual or group. Sometimes increases in scores may be due largely to the group's natural maturation, and score increases following the intervention may occur for the same reason. Thus, the time series has much to recommend it; however, the negatives include the time needed to make such early and post-intervention observations as well as the potential impact of each observation. Most researchers agree, however, that the potential gains can offset the negative factors overall.

Using Statistical Measures

A wide variety of statistical measures can be used to "treat" the data acquired through the use of any of these research designs; however, this text will not address the statistics issue, leaving an extended discussion of this up to the many excellent statistics texts and software packages available. It is important, however, to discuss at least briefly the difference between statistical *significance* and *meaningfulness*. In the first case, one may find that differences occurring in a treatment group 'a' as compared or contrasted with differences in a treatment group 'b' may be statistically significant, that is, due to the treatment intervention rather than to mere chance.

In addition to statistical techniques which may be applied using pencil, paper, and hand-held calculators, there are a great number of statistical packages for the microcomputer that make developing statistics easy. To use these software packages you identify the type of statistic needed (t-test, analysis of variance, correlation), enter your data or scores from the data-gathering instrument, and the

software calculates the statistics. However, while statistical significance may be acquired showing a difference between groups, this difference may not be *meaningful* in that it would not be worth the time or investment of other resources to achieve the same results. For example, if you were measuring claims processing speed and accuracy between one group of trainees using traditional training methods and another group who had used a more sophisticated (but expensive) computer-aided expert systems method and found that a statistically significant three errors a month difference existed, would it be worth the cost of adding the new technology needed for these results in the future? Keeping all other variables constant, your decision would be "probably not." Therefore, a trainer must keep the differences between significance and meaningfulness always in mind when making recommendations concerning training results.

Summary

This chapter has presented in just a few pages what research texts and courses cover over entire semesters or more. Research is a complex yet essential element in training, as it provides answers to questions upon which critical business decisions are made. Training is a key element to business success; however, because training resources are limited—as are all business resources—research provides the "road map" as to where these resources should be directed to obtain the biggest bang for the buck, the greatest return on investment. Therefore, research efforts—observations, interviews, surveys, tests, and experiments—are all used to answer research questions.

Observational variables were described as either descriptive, inferential, or evaluative. Descriptive data provide relatively straight-forward pictures of events, whereas inferential data require that the observer interpret behavior. Evaluative data require that the observer assess or judge the behavior. Developing a useful observational guide is all about creating a form that will help the observer record data in a useful format. This chapter reviewed four different types of recording observational data: elapsed time recording (timing behavior); frequency recording (determining how many times an event takes place in a given time frame); interval recording (recording behavior for short periods and at numerous instances); and continuous recording (noting all the behaviors throughout a specified observation period). Once the type of data needed is determined and the target audience is selected, the researcher determines what behavior is to be examined, and how many observations of what type and duration will be needed. The resultant

form is ideally examined by a panel of experts and then is actually field-tested and further revised.

Interviews are meetings between an information gatherer and an information giver. Knowing what data are needed and who has it is the first step. To develop an interview guide that will ensure that valid, reliable data are gathered, the researcher develops either an open-ended or structured interview guide. Open-ended interview results are used when a small number of people are needed to explain processes, offer opinions, or forecast needs. Structured interview guides usually result in more quantitative data. This chapter included tips on wording and sequencing questions in a manner that will result in useful data. Actually conducting interviews requires an interpersonal skill set combined with a good understanding of the problem at hand. Analyzing interview data may require the transcription of audio/videotapes or coding of notes using an interpretation matrix to make sense of the results.

Surveys are large-scale data collection efforts. Survey skills discussed in this chapter included selecting individuals for the project who are representative of the larger population. Designing effective questionnaires centers on creating a valid, reliable instrument. How questions are worded and sequenced has an impact on the useability of resultant data. Like pointers offered for developing effective observation and interview guides, developing a questionnaire is an art and science that can benefit from input from many individuals. It is important to have a number of experts critique a draft questionnaire as well as to have a small sample actually complete the instrument prior to its being sent to the larger population. These latter steps can help ensure that valid questions exist and useable data result.

Tests are very useful instruments to collect data concerning the effectiveness of participant learning. Tests are most effective when they are developed in conjunction with the course objectives established. In many cases, the test is developed along with the course so that all important facets are included in the test in the right sequence and with the appropriate weights and emphasis. Tests are not only useful to measure learning outcomes, but should be used as instructional tools to modify content for future courses.

Experimental designs are used when the training professional wants to know how effective a given treatment (training effort) was. Experimental designs discussed in this chapter ranged from the very common post-test only design to the time series, which measures outcomes at various time frames. The main difference among these designs is the degree of control that helps ensure that outcomes are the result of the treatment and not the result of something else. Finally, keep in mind the differences between *significance* and *meaningfulness* when using these assessment tools and methods. While it may be important to report significant findings of your research, it is even more important to report what these findings represent in meaningful terms. They are not always synonymous.

Questions

1. Describe the differences between the terms *reliability* and *validity*. What impact do they have on data-gathering activities such as observations, interviews, questionnaires, and tests?
2. List a variety of instances where using each of the following research methods would be appropriate:
   a. Observation
   b. Interview
   c. Survey
   d. Test
   e. Experiment
3. For the same group of tools listed above, provide at least three strengths and three weaknesses for each research technique.
4. Evaluate, *within your own abilities and interests*, which of the four tools *you* would consider using in any given instance.
5. What advantages occur from the use of a pilot test of a research tool or instrument?
6. Compare the advantages and disadvantages of each of the experimental designs presented in this chapter.

Applications

1. In groups of two, draft a one-page questionnaire that might be used to describe your instructor's teaching style. When complete, act as a "jury" to evaluate other groups' questionnaires. Make specific recommendations to enhance both validity and reliability of this instrument.
2. Design a simple experiment that would compare the achievement of your class as contrasted with the achievement of another, similar class.

Additional Readings

Babbie, E. *Survey Research Methods*, 2nd edition. Belmont, Calif.: Wadsworth, 1990, 395 pp.

A thorough and easy-to-read text concerning survey research methods and tools. Survey examples and specific recommendations for sampling and follow-up activities in survey research are given.

Bradburn, N. M. and S. Sudman and Associates. *Improving Interview Method and Questionnaire Design*. San Francisco: Jossey-Bass, 1979, 214 pp.

This text, while a bit dated, offers a wealth of excellent ideas and suggestions when dealing with interviews and developing survey instruments. Some research background would enhance your reading of this little book.

Dillman, D. *Mail and Telephone Surveys: The Total Design Method*. New York: Wiley, 1978.

One of the most widely-read and recommended texts in the field of survey research. By following Dillman's TDM recommendations, survey responses can be greatly enhanced.

Freed, M. N., J. M. Ryan, and R. K. Hess. *Handbook of Statistical Procedures and Their Computer Applications to Education and the Behavioral Sciences*. New York: American Council on Education, Macmillan/Oryx, 1991, 397 pp.

Don't let the title of this text put you off as, while it *does* deal with statistics, it tells you what type of statistic you need for the type of research you are conducting and then provides the details about how to go about using it. A rich appendix provides the reader with advice *and* details of how each type of statistic might be approached for a number of personal computer software packages. A gem!

Leedy, P. D. *Practical Research: Planning and Design*, 5th edition. New York: Macmillan, 1993, 349 pp.

An easy-to-use, full-of-examples, paper-bound 8 1/2 x 11 "users guide" for novice researchers. If you're just starting out in research, this text is for you.

Nachmias, C. F. and D. *Research Methods in the Social Sciences*, 4th edition. New York: St. Martin's Press, 1992, 576 pp.

A good, solid research text designed primarily for empirical methods. Somewhat statistical in content but an excellent addition to your research library.

Sapre, P. M. *Research Methods in Business Education*. Little Rock: Delta Pi Epsilon, 1990, 152 pp.

This small "handbook" deals with business and business-education research. As such, it provides a good overview of the research process and offers suggestions in developing surveys and experimental designs.

Endnotes

1. Borg, W. R., and M. D. Gall. *Educational Research: An Introduction*, 5th edition. New York: Longman, 1989, p. 477.

Part Three

Instructional Design

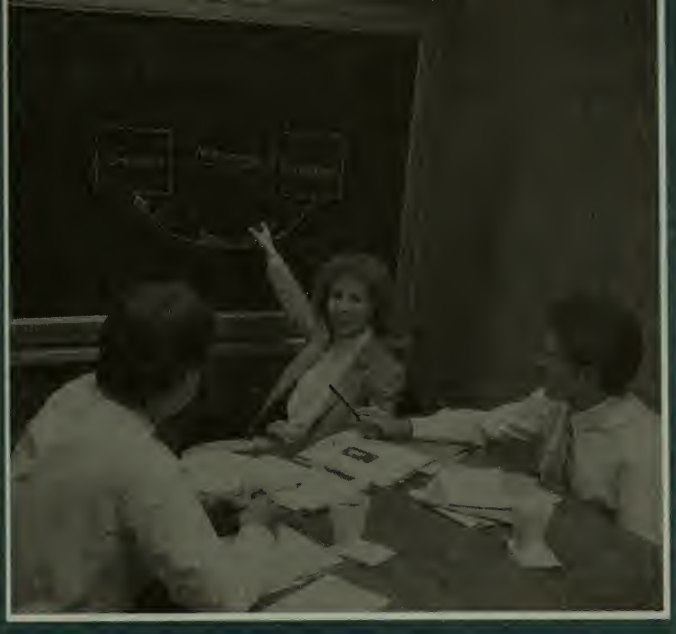
Prologue to Part III

What is known about the process of designing instruction? While a large body of literature exists and a good number of models have evolved, every instructional designer seems to take a different approach to this question. Many factors affect the process of design, including the content, the organizational climate, the background and personality of the training professional, and the urgency or perceived strategic value of the instruction. These and other variables interact, making the design activity a learning process in itself, and the instructional designer learns what works best through trial and error.

Instructional design represents the second stage of the Training Cycle, the stage where learning solutions to problems are developed. Design begins with the outcomes of the assessment stage. And just as the training professional was a team member in needs assessment, that same team focus often continues in the design stage. Design requires input, feedback, and ideas from a wide range of stakeholders. Therefore, training designs are based on multiple perspectives and are an iterative process; designs are usually not one-person, one-shot responses to problems, although sometimes circumstances dictate exactly that. Instructional design is essentially all about shared learning and experimentation. From systems theory, we know that more than one solution exists for any given problem; the challenge to the designer is to convert identified needs into a learning solution that works for a given organization.

Chapter 5, "Learning Theory," provides a theoretical rationale for instructional design as well as delivery (Part Four of this book). Chapter 5 is concerned with understanding the adult learner, what we know about teaching and learning, behavioral and cognitive science, and what motivates people to want to learn. This chapter also provides a useful theoretical framework for instructional design. Keeping in mind that no "one best way" exists, Chapter 5 helps us understand that we have choices to make when designing effective instruction. This chapter also examines what motivates adults to learn. Here, the work of Maslow, McGregor, and others provides a roadmap of adult learning motivation to learning theory.

Chapter 6, "Training Program Design," takes a very pragmatic, how-to approach. The design model offered in this chapter is a sample approach to translating identified knowledge, skills, and abilities into deliverable training solutions. Chapter 6 describes the design process itself, and offers a step-by-step guide, the Training Design Funnel, to manage the process. Illustrations and charts are offered to help the design team translate identified needs into goals and break goals down into detailed learning objectives. A sample worksheet to support this process is offered. A theme throughout this chapter is that instructional design is a group effort. Because not all solutions have to begin from ground zero, and because a number of external vendors exist that can provide design services, this chapter concludes with an overview of how to evaluate off-the-shelf training solutions and materials as well as how to work with external training vendors.



Chapter Five

Learning Theory

Highlights

- Research on teaching and learning styles
- Perspectives on learning theories
- Motivation and learning assumptions
- Implications of theory for training in organizations

Introduction

> Nothing is so useful as a good theory.
> — Kurt Lewin

Theories help us understand why something happened or predict what will occur under given circumstances. A trainer needs to understand *learning theory* as a guide for the design and implementation of effective instructional programs. Learning theory, by explaining/predicting how individuals learn, is the foundation for the development of sound, effective learning experiences. It provides the frame-

work for answering the question how best to structure learning materials so that the learner can quickly grasp the concepts and/or skills being presented. No single theory explains how or why different learners learn the same material in the most effective way.

Individual learners differ, depending upon their experience, aptitude, and attitude. Whether you can best learn new sales techniques in a classroom environment, by reading a book, or by role play, depends on individual characteristics, the perceived value of the learning task, and how much experience (and perhaps success) you have had in sales in the past. No single theory explains how or why different learners best learn the same material given different approaches.

One reason learning theory development is so incomplete and imprecise is that it is difficult to agree on a definition of learning. From the 1900s through the 1950s, learning was defined as some type of behavior change. Differences of opinion, however, led to questions that if no change was observed, did learning occur? If change was observed, did it result from learning? Does maturation alone result in learning? One useful definition was put forth by Maples and Webster: "Learning can be thought of as a process by which behavior changes as a result of experiences."[1] In other words, learning is a process, not an output.

The purpose of this chapter is to provide an overview of historical and current thinking about how learning occurs. The chapter begins with an overview of teaching and learning styles. Traditional learning theories that fall under the categories of behaviorism and cognitive science are also overviewed with emphasis on their relationship to training program design. Because no training program will work unless the learner does, the chapter concludes with a review of well-known motivation theory, including the work of Maslow, Herzberg, Rotter, Rogers, and McGregor.

Teaching And Learning Styles

As students, we all recall classrooms where the teacher determined the content, structure, sequence, presentation, and evaluation of instruction. As a matter of fact, most formal education relies on this model. However, for some students who are curious and internally motivated, striking out on their own results in a richer and more successful experience than one directed by the instructor. Likewise, teaching styles depend on the teacher and differ profoundly from individual to individual. Teaching style will result in greater or lesser degrees of comfort with the instructional tactics such as lecture, role play, small group activities, discovery, etc. When these two conditions—the learning orientation of the student and the teaching style of the instructor—are successfully integrated, effective learning will occur.

Early childhood learning exists within a rather formal set of content rules.

These include learning how to read, how to write, and how to compute (add, subtract, multiply, and divide). When these basic building blocks of learning are mastered, the student is then ready for higher-order learning; learning that requires making connections of analysis and evaluation. When students have learned how to learn, they can take on more responsibility for their own education that includes self-directed learning. Education and effective training should be directed toward the merging of teaching style and learner orientation.

Andragogy and Pedagogy

Andragogy and pedagogy refer to the study of teaching and both are made of two Greek words. "Andra" comes from the Greek word *aner*, which means "man, adult." "Peda" comes from the Greek word *pais*, which means "child." Both terms use the second Greek word, "ago," which means "leading." However, those labels tend to be misleading; the terms more appropriately refer to teaching strategies than to the age of the learner.

Pedagogy originated with early monks who recorded common characteristics among children learning basic skills. Much study has been done in child development, learning, and teaching. However, it wasn't until the middle of the twentieth century that instructors realized their assumptions about how children learn did not fit the adults they were teaching. Andragogy, which developed in Europe, was introduced in the United States by Malcolm S. Knowles in the 1960s. Andragogy focuses on learner-directed learning approaches; pedagogy, on teacher-directed learning experiences. Knowles emphasized that the two assumptions can and do coexist. The task to be learned and the individual's learning style in combination dictate whether a pedagogical or andragogical approach should be used in the design and delivery of a training program.

For example, how would you prefer to learn each of the following?

- to be oriented to a new job
- to understand union politics
- to improve your writing skills
- to understand the technical aspects of local area networks
- to use a new geographic information system

Responses to this question reflect learning styles that relate to both pedagogy and andragogy. How you responded to each question reflects your own particular background and learning preference. While a young MBA student may learn best about union politics through the lecture method (using elements of pedagogy), someone with more experience or a greater need to know may want to assist in a membership campaign or actually run for union office to get the perspective

that is desired. Likewise, to improve your writing, you may need a refresher course in grammar, you may read Strunk and White's *Elements of Style*, or you may need an intensive, hands-on workshop. To learn to trouble-shoot local area network operations, you may need classroom lectures, hands-on experiences, and/or an apprenticeship with an expert. To develop skills using geographic information systems, you may learn how to use databases and graphics in a hands-on workshop or through a software manual.

The point of this discussion is that andragogy and pedagogy are approaches to guide learning, no matter how old the learner is. The assumptions and process elements used to contrast these two orientations about teaching/learning are illustrated in Figure 5-1.

As can be seen from Figure 5-1, learning concepts and the assumptions generated by pedagogical and andragogical points of view differ substantially. And the conditions that are manipulated—the process elements—likewise differ as to *who* controls them. Training efforts, therefore, will differ significantly depending upon the approach taken by the training planner and the instructor. The following discussion includes implications for developing effective training programs.

Learning Is Not Its Own Reward. Children learn for reasons quite different from adults. Adults are not motivated by gold stars or good report cards; they want a learning outcome that they can put to use in concrete, practical, and self-benefitting terms. Therefore, training designers should remember that adult students prefer practical, hands-on training sessions over general, theory-oriented classes. The best way to motivate individuals to learn a spreadsheet software package, for example, is to show them how they can apply it.

Adult Learning Is Integrative. The adult learner brings a wide variety of knowledge and a vast array of experiences to the learning situation. Adults learn best when they are able to integrate new ideas with what they already know. If the information conflicts with what the learner knows or values, learning is more difficult. Such a conflict may be used as an attention getter, or it may simply be explained. The point is that it must be dealt with or it will generate resistance to learning.

Value Adjustment. Value judgments must be considered. Because training changes how work is processed, the adult learner must understand *why* the learning is useful and *why* s/he should master new skills. In this case, value adjustment means understanding why work that has been done a specific way in the past will no longer be performed the same way in the future. Trainees will accept change more readily when they know *why* the change is taking place.

Control. Adult learners want control over their learning experiences. Instructors should consult with trainees about the content of curriculum. Such an approach gives trainees opportunities to contribute to course content and to identify methodologies that fit individual learning styles.

Assumptions About	**Pedagogical**	**Andragogical**
Concept of the learner	Dependent personality	Increasingly self-directed
Role of learner's experience	To be built on more than used as a resource	A rich resource for learning by self and others
Readiness to learn	Uniform by age-level and curriculum taught	Develops from life tasks and problems
Orientation to learning	Subject-centered	Task- or problem-centered
Motivation	By external rewards and punishments	By internal incentives
Process Elements	**Pedagogical**	**Andragogical**
Climate	Tense, low trust Formal, cold, aloof Authority-oriented Competitive, judgmental	Relaxed, trusting Mutually respectful Informal, warm Collaborative, supportive
Planning	Primarily by teacher	By learners and facilitator mutually
Diagnosis of needs	Primarily by teacher	By mutual agreement
Setting of objectives	Primarily by teacher	By mutual negotiation
Designing learning plans	Teachers' content plans Course syllabus Logical sequence	Learning contracts Learning projects Sequenced by readiness
Learning activities		Inquiry projects Independent study Experiential techniques
Evaluation	By teacher Norm-referenced (on a curve) With grades	By learner-collected evidence validated by peers, facilitators, experts Criterion-referenced

Figure 5-1 Comparisons of pedagogy and andragogy

Practice Must Be Meaningful. Repetition for repetition's sake does not produce a substantial learning effect for adults. However, if repetition has meaningful results, learning will take place. This principle is borrowed from the work of E. L. Thorndike, an early leader in developing learning theory, who was opposed to meaningless drill. A related premise is that adults tend to be slower in some psychomotor tasks than children. Adults are less willing to make mistakes and tend to compensate for this by being more exact; thus, they make fewer trial-and-error ventures and fewer errors. Rather than have trainees work on textbook drills, the trainer should have them practice on actual work in the learning environment. A similar suggestion is that trainees apply what has been learned back at their desks as an assignment—in the language of training, as *reinforcement* for a learning session just completed or as *pre-work* for the next one.

Self-pacing. Because they tend to acquire psychomotor skills more slowly (a tendency that increases with age), adults should be given every opportunity to proceed at their own pace. In many instances content can be designed to support self-paced learning. Some organizations, such as Apple Computer, give their employees a computer to take home, enabling learning to take place there as well as in the office or in a classroom.

Learning Style

The term *learning style* is often used to describe a learner's preferred approach to learning. There are many learning style models. One model suggests that there is a single orientation for a given individual. Another model claims that an individual has only a certain or finite number of learning styles. And yet another model suggests that one uses a single style selected from any number of possibilities. Finally, a fourth model contends that everyone has many different combinations of styles. Others, including Kolb, who developed the learning style inventory (KLSI), integrates the latter three of these models.

The KLSI attempts to measure how much one uses four very different learning modes that are part of a four-stage cycle of learning: concrete experience, abstract conceptualization, reflective observation, and active experimentation.[2] The concrete experience stage of the learning cycle emphasizes personal involvement and feelings. In learning, you would rely on your ability to be open-minded and adaptable to change. In the reflective observation state of learning, people understand ideas and situations from different points of view. In a learning situation, your own thoughts and feelings would be the basis of opinions. In the abstract conceptualization stage, learning means being logical. Learning is based on systematic planning. Learning in the active experimentation stage is active. You would experiment with what really works.

Kolb explained that no single mode can completely describe an individual's learning style. While data about the reliability and validity of the KLSI are mixed,

Converger

The *converger* combines the learning steps of *Abstract Conceptualization* and *Active Experimentation.* Individuals with this learning style are best at finding practical uses for ideas and theories. If this is your preferred learning style, you have the ability to solve problems and make decisions based on finding solutions to questions or problems. You would rather deal with technical tasks and problems than with social and interpersonal issues. These learning skills are needed in specialist and technology careers.

Diverger

The *diverger* combines the learning steps of *Concrete Experience* and *Reflective Observation.* Individuals with this learning style are best at viewing concrete situations from many different points of view. Their approach to situations is to observe rather than take immediate action. If this is your learning style, you enjoy situations that call for generating a wide range of ideas, such as in a brainstorming session. You probably have broad cultural interests and like to gather information. This imaginative ability and sensitivity to feelings is needed to be effective in the arts, entertainment, and service careers.

Assimilator

The *assimilator* combines the learning steps of *Abstract Conceptualization* and *Reflective Observation.* Individuals with this learning style are best at understanding a wide range of information and putting it into concise logical form. If this is your learning style, you probably are more interested in abstract ideas and concepts and less focused on people. Generally, people with this learning style find it more important that a theory have a logical soundness than a practical value. This learning style is important to be effective in information and science careers.

Accommodator

The *accommodator* combines the learning steps of *Concrete Experience* and *Active Experimentation.* Individuals with this learning style have the ability to learn primarily from hands-on expeiences. If this is your style, you probably enjoy carrying out plans and involving yourself in new and challenging experiences. You may have a tendency to act on your instincts rather than on logical analysis. In solving problems, you may rely more heavily on people for information than on your own technical analysis. This learning style is important for effectiveness in action-oriented careers such as sales or marketing.

Assimilation and accommodation originate in Jean Piaget's definition of intelligence as the balance between the process of adapting concepts to fit the external world (accommodation) and the process of fitting

(continued)

observations of the world into existing concepts (assimilation). Convergence and divergence are the two essential creative processes identified by J. P. Guilford's structure-of-intellect model.

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Figure 5.2 Learning style types*

determining the degree to which you are more concrete than abstract makes a certain amount of sense. The more reflective as opposed to active one is, a learning style can be determined that can be particularly useful in choosing careers, solving problems, managing people, and working as part of a team. Try to identify your learning style category in Figure 5-2.

Learning Theory

The predominant educational philosophy underlying the design of many of today's training programs comes from the behavioral tradition that dominated the psychology of learning until the 1960s.[3] Behavioral science defines learning as changes in behavior. Because this single definition of learning is questionable, other theories have evolved that may provide more insights on how and why individuals learn the way they do. As individuals mature, their early learning style—developed as a result of experiences founded in childhood learning—may, with wider input and more diverse stimuli, no longer be effective. The two primary learning approaches discussed here are behavioral and cognitive.

Behavioral Approach

The *behavioral* model considers the following basic assumptions:

1. Observable behavior rather than ideas or mental activity must occur to confirm that learning has taken place.
2. The environment shapes the behavior of the learner, not the reverse.
3. How closely in time the elements of teaching and learning bond together and reinforcement occurs is critical.[4]

The best-known behaviorists include Edward L. Thorndike, Ivan Pavlov, and B. F. Skinner. In the 1880s, Thorndike's experimental work with animals and birds was termed the stimulus-response (S-R) theory of learning. Thorndike said that connections between stimuli (sensory impressions) and responses (subsequent behavior) are strengthened or weakened depending upon the consequences of the

behavior. When given a proper stimulus, the learner responds. A response can be strengthened or changed depending upon the particular stimulus.

In other words, the S-R theory says that consistent, desirable behavior is formed by continually offering specific stimuli and rewarding that behavior. Stimuli must be appropriate *not only* to the respondent, but also to the task to be performed and to the environment, among other things. At its most basic level, S-R theory requires a number of conditions to be met *prior* to the anticipation that appropriate responses will be forthcoming.

Thorndike proposed three "laws of learning" to explain his findings: the law of effect, the law of exercise, and the law of readiness.[5] The *law of effect* suggests that the learners will acquire and remember responses that led to aftereffects that were satisfying. The *law of exercise* says that the repetition of connections that are meaningful will result in substantial learning. The *law of readiness* says that the learner must be ready for this connection for learning to be enhanced. If the learner is not ready, learning will be inhibited.

Other researchers built upon and modified these premises, most notably Ivan Pavlov (1902) and his experiments with dogs in Russia and B. F. Skinner's (1971) operant conditioning. Operant conditioning can be summarized as: reinforce what you want the individual to do again; ignore what you want the individual to stop doing.[6] The concept of reinforcement is critical to operant conditioning. If you assume that the environment (the stimulus) controls behavior, modifying the environment means that positive behaviors can be encouraged and negative behaviors can be discouraged—and possibly even eliminated.

Applying the Behavioral Approach

The application of the behavioral approach, or model, to training has had traditional roots, stemming from Frederick Taylor's (1911) work at the turn of the twentieth century. Taylor believed workers wanted to perform well, and his goal was to ensure that they learned the one best way to accomplish a task. Taylor attempted to quantify his workers' output by recording each motion made, every tool utilized, and the time needed to perform a specific task. Each worker's actions could be modified and thus the worker was trained to do a specific job the one right way according to Taylor's observations. Many education and training activities can be traced to this type of learning. The structured and systematic design of instruction, development of behavioral objectives, programmed and computer-aided instruction, competency-based education, and instructor accountability are all grounded in behavioral learning theory as well as in business practicality.

A behavioral approach to designing a learning experience would require activities that sharpen associations between stimuli and behavior, create chains of alternative responses, and develop discriminations between responses of differing effectiveness. Training programs would emphasize drill and practice. For many

beginners and for routine tasks, behavioral approaches can result in quick learning by the trainee.

For example, when you get into your car, fasten your seat belt, and start the engine, your first action is probably to check the gauges to see if all is in order (stimulus). This review determines what your next step will be (association). If the gauges are all within normal ranges for your car, you probably then check for traffic, put the turn signal on, shift into the appropriate gear and drive away. A chain refers to the almost automatic steps that result from the first association and are generally taken without consciously thinking about them. Chains are typically developed by practice. Discrimination—the ability to make fine distinctions—would handle exceptions. If the engine gauges did not register normal readings, for example, you would probably not initiate the next steps in the driving process until remedies or explanations could be found.

Writing Learning Objectives

The training designer using a behavioral approach develops a learning program by first identifying expected outcomes. These *learning objectives* (also known as *course goals* or *behavioral objectives*) define what the trainee is expected to do as a result of the training. After all, how can people know what route to take or that they have reached their destination if they do not know where they want to be? The point is that training should relate directly to expected job performance. Learning objectives, as discussed in earlier chapters, also provide the basis for evaluating the effectiveness of training efforts.

Recall that for the behaviorist, learning occurs when a demonstrated behavior change occurs. Therefore, built into the development of behavioral learning objectives, are precise details of observable behavior change or development. These changes are based on learning activities within one of three domains of learning—cognitive, affective, and psychomotor. The *cognitive* domain deals primarily with mental activities (thinking). The *affective* domain deals with attitudes and appreciations (feeling). The *psychomotor* domain focuses on physical actions (task performance).

Benjamin Bloom developed a hierarchical learning taxonomy that identifies sequential learning stages or steps in the cognitive domain. As Figure 5-3 shows, the cognitive learning taxonomy ranges from recall at the lowest level to evaluation at the highest level.[7] Bloom's six steps or stages—knowledge, comprehension, application, analysis, synthesis, and evaluation—have been modified by others; however, it is Bloom's taxonomy to which most of the behaviorists turn for the development of behavioral objectives. According to Bloom, learning is developed in stages, with each step built upon the preceding one. Thus, measurable training-program outcomes can be developed by using one or more verbs appropriate to a specific level—for example:

- ➢ Knowledge: identify, list, tell
- ➢ Comprehension: describe, explain, summarize
- ➢ Application: construct, demonstrate, solve
- ➢ Analysis: analyze, generalize, organize
- ➢ Synthesis: compile, create, design
- ➢ Evaluation: appraise, compare, contrast

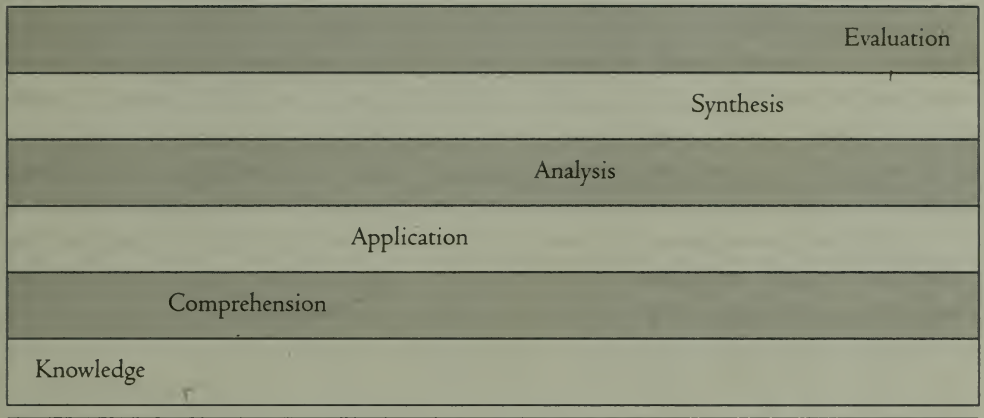

Figure 5-3 Bloom's Taxonomy

Robert Mager[8] has contributed greatly to the use of behavioral objectives in business training, setting forth three essential elements for the measurement of an objective within Bloom's taxonomy. These elements are the *conditions* under which the desired activity will occur, the *performance* to be completed, and the *criteria* for acceptable performance. Each behavioral objective must contain all three elements. The learner may not move forward in the process until completion of the objective has been met according to a specific performance level or standard. Some training experts believe that the time frame for the completion of the task should also be identified. After all, if one can describe machine safety features but takes an hour to do so, the effectiveness of the performance objective is compromised. A sample behavioral objective for a knowledge task may be expressed as:

> ***Given [the condition] a diagram of machine tool 'X,' the learner/trainee will be able to describe [the performance] all safety features with 100 percent accuracy within one minute [the criteria].***

The behaviorist, therefore, sets out to measure learning (behavior) with some degree of precision. These measures can take into consideration a wide variety of conditions, including increasingly complex skill and knowledge levels. However, since each behavioral objective addresses only a small segment of a larger learning task, a combination of them is required as the task expands or becomes more complex. Because it is a hierarchy, Bloom's Taxonomy becomes a useful guide for program and curriculum design. Learning goes from the simple (knowledge) to the complex (evaluation). Once the terminal (or end) objective is identified, intermediate units or enabling objectives provide the structure of learning activities. These objectives are more meaningful when they reflect the business goals that the organization is attempting to reach.

Learning objectives are valuable to the trainer who must be able to document that learning has occurred. Objectives are practical and concrete goals. The assumption is that if one can measure learning outcomes, the learning process is easier to manage. It is also important to note that learning objectives deal with more than simply task performances; they encompass acquired knowledge as well. These knowledge outcomes can also be measured by the use of learning objectives.

Despite their value, many trainers hesitate to write learning objectives because they find the task difficult and time-consuming. Why do trainers find it difficult to write objectives? Several reasons have been identified:

1 ➢ Writing is difficult for most people.

2 ➢ Skill is involved in choosing the right words and identifying the proper amount of qualification and quantification.

3 ➢ Objectives are only as good as the standards for the task being taught. What if no standards exist?

4 ➢ Trainees often come to the learning experience with various levels of skill. How do you develop a goal common for all?

Cognitive Science Approach

As the task becomes less routine traditional behaviorism becomes less useful as a basis for designing learning programs. Behaviorism defines learning as changes in behavior. Cognitive science views learning as changes in mental structures—what goes on inside our heads. Learning is discussed in terms of building an internal infrastructure, or schema.

Cognitivists say that since the individual interprets sensations and gives meaning to them and to their events, the mind is more than a simple system where stimuli arrive and responses leave. Learning involves the reorganization of experiences in order to make sense of environmental stimuli. Sometimes this sense comes

through flashes of insight. While one can disagree, a problem, according to cognitivists, can exist in only two states: solved and unsolved. There is no state in between—of partial solution. A major difference between cognitivists and behaviorists, therefore, is where does the control over the learning activity reside? For the cognitivist, the control lies with the individual learner. For the strict behavioralist, on the other hand, control lies with the environment or the instructor. One must look at not only the symptoms of a problem but also at its causes if any resolution is to be permanent and not recurring.

Cognitive psychologist Jean Piaget (1952) suggested that learning occurred when individuals interacted with their environment in an ever-expanding number of experiences. From the cognitivist point of view, new research interests in information-processing theories, including memory and metacognition research, computer simulations and artificial intelligence have begun to emerge. Researchers such as Bruner (1965), Gagné (1965), and Smith (1982) are among the cognitivist advocates.

Bruner's learning-through-discovery method requires three virtually simultaneous processes from the learner: (1) The acquisition of new or the refinement of old information. (2) The transformation of this information to make it fit new task requirements. (3) The evaluation phase—checking to assure that resulting actions are appropriate and adequate to the task. Smith, moving forward with Gagné's earlier concept of learning how to learn, states that "Learning how to learn involves possessing, or acquiring, the knowledge and skill to learn effectively in whatever learning situation one encounters."[9] Smith's ideas of learning how to learn are a key feature of adult training. Learning how to learn is a concept designed to move the learner from reliance on training to developing a specific task performance to creating in the learner an understanding of how learning one task can be transferred to another, more complex activity. Once these connections are made, the learner can build on individual competencies to create a better understanding and more effective knowledge of the larger system. In short, learning how to learn provides the employee with lifelong survival skills in the workplace.

The cognitivist's position focuses on the mental processes within the learner's control which impact and therefore influence learning. These conditions include the learner's needs (internal motivation), learning style (orientation), and the instructional events (training).

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Applying Cognitive Science

Cognitive science is concerned with the study of mental process such as remembering and problem solving.

Remembering. How can you explain what you remember and what you do not remember? Memory is often divided into three major processes: encoding, storage, and retrieval. Encoding is taking meaning from information. Storage is how much

and how long we can remember. We can keep a great deal of information in long term memory, but short term memory is capable of holding only a few items for a few seconds. As a rule of thumb, we can remember 7 things—plus or minus 2—in our short term memory (a telephone number is a good example). Retrieval is accessing information in long term memory. Following are suggestions from cognitive scientists about how to facilitate remembering:

1. Organization facilitates recall.

Memorize the following list:

lake, ocean, bus, pond, truck, car, brook

How did you memorize these items? Without any given structure, people generally will organize items into like groups (lake, ocean, pond, brook; bus, truck, car). Such an organization facilitates recall. While everyone agrees that organization helps recall, there's no agreement as to how an individual organizes, just that organization does exist.

What the trainer can learn from this principle is the need for organization in training programs. Learning activities should go not only from the simple to the complex, but should also group like concepts together.

2. Complex processes operate on an "as needed" basis.

Knowing how to write a database program entails procedural knowledge (knowing how to do something) rather than factual knowledge (knowing a fact). While we might understand concepts that define a relational database (facts), being able to group those facts into rules (procedures) that would allow us to write the program is yet another issue. Over time, facts are transformed into production rules. Production rules increase efficiency. The following is an example of production; note that the *then* for one rule is the *if* for the next one.

If your car does not start, *then* check to see if the shift lever is in either Neutral or in Park.

If the shift lever is in the appropriate gear, *then* check to see if you have any battery power by turning on your lights.

If your lights work, *then* you may have to check your starter motor.

What the trainer can learn from this principle is the desirability of developing procedures. Components of a task that can be made into procedures are logical groupings of instructional materials.

3. Schema can be formulated.

Schema are diagrams or outlines of something. Schema can be expressed by scripts or frames. A *script* is a scenario and is stored in a time sequence. A *frame* is information about a particular circumstance. Cognitive scientists believe learning takes place by building schema. For example, an insurance claims adjuster who gets a call from a policy holder who has had an accident relies on his or her schema to handle the claim. Data are collected from the policyholder in a particular order to ensure that all information about the claim is complete. The adjuster continually modifies schema to fit particular circumstances. Another example is how a doctor treats a patient who complains about feeling poorly. By isolating the area of discomfort and by precise questioning, the doctor is able to identify the problem. Once diagnosed, the problem becomes treatable and an appropriate remedy can be prescribed.

What the trainer learns from this principle is that by analyzing a learner's errors, incorrect knowledge structures can be identified and corrected. Moreover, knowledge is built by continually modifying schema and the relationship between elements. Schema provide the learner with a picture of inferencing capabilities.

Problem Solving. Problem solving is composed of many processes, of which memory is a major player. Previous experience is the basis for means/end analysis. The problem solver tries to figure out how to solve the problem (get to the end). Problem solving is at the crux of cognitive science and requires organizing facts, recalling rules, and applying schema.

What the trainer learns from this principle is, first, that the problem-solving skills of novices and experts differ markedly. We know that the learner progresses from a knowledge-based state to a rule-based state, then to a skill-based state. We may find that by organizing training around a problem solving approach, learners will see relationships and develop schema to base an understanding of how to do tasks and jobs.

Comparing Behavioral and Cognitive Science Approaches

In short, the behaviorist takes the position that the learner moves from a low-level knowledge-based state through a rule-based state to a skill-based state. And by organizing training around this philosophy, all outcomes can be determined through a series of measured and measurable accomplishments. The cognitivist, on the other hand, assumes an interrelationship between knowledge and skills to be learned rather than isolating these elements. The cognitivist takes the position that the problem-solving approach is more effective as it brings into play relationships, which may help one to understand or redefine models within a system or schema of experience.

A comparison of behavioral and cognitive positions in the teaching of network troubleshooting was developed by Rob Foshay[10] and is shown in Figure 5-4.

This comparison shows how these theories could be used in developing a course on network troubleshooting. While the two approaches begin similarly, the behaviorist concentrates on the individual parts of the network. The cognitive designer, however, spends equal time on concepts and the production systems that explain how the network operates.

Implications of Learning Theory for the Workplace

For effective training to take place, it is essential that one understand learning theory not merely as a set of buzz words and jargon but how different theories can contribute to successful learning. The trainer's view—and attitude—toward learning and toward the individual learner has much to do with the success of training. The greater the fit between the trainer's attitude and teaching practices—based on a sound understanding of theory—and the learner's style, the more effective training is likely to be. Thus, content knowledge and appreciation of learning theories are essential to the success of the training endeavor.

As a guide to understanding how learning theories inform practice in the workplace, Knowles (1989) suggested that training activity must account for tasks that range from simple to complex and trainee abilities that range from low to high.

For adults engaged in a training endeavor, certain assumptions must be made to include not only the intelligence of the learner, of course, but also a wide range of other variables that impact individual learning, such as motivation, previous experience, environment, and resources available. The more these variables occur in a positive state—high motivation, successful prior experience with similar or like tasks, a positive work environment, and adequate available resources—the more effective training will be.

In addition to the trainee's abilities, the complexity of the task to be learned is equally important. Generally, the simpler the task to be performed is, the easier it will be to offer successful training. As the task becomes more complex, the more able the learner and the more precise the training must be in order to complete the task successfully. There is a caution here, however, and this caution evolves from research that suggests that one can overtrain for task complexity, resulting in a *negative* learning curve. That is, the simpler the task is, fewer instructions are needed; the more complex the task, the higher the level of instruction needs to be. When this process is reversed—that is, when a great deal of instruction is given for a simple task, an individual may be reluctant to perform at an optimum level. Likewise, for a very complex task, the less instruction provided, the fewer are the chances of success.

While not an absolute, instructional designers often use behaviorist theories as the basis for learning when the task is to be learned is not complex and when the learners themselves have low learning abilities. Cognitive theories are the basis for programs where tasks that are more complex and where learners themselves have higher learning abilities. Humanistic concepts are most useful when

Behavioral	Cognitive
Analysis Approach	
1. Identify the parts of the network	1. Identify the parts of the network
2. Identify the cues for network monitoring	2. Identify rules governing how the parts interact
3. Identify the network's most common failures	3. Identify the failures which are common and represent all key parts of the network; for each, identify failure probability and time or resources required to test and fix
4. Develop procedural chains for each common fault, using a split-half strategy, including conditions, action and feedback for each step.	4. Group the faults into categories. For each category, develop a general solution algorithm which takes into account the probability of the failure, the cost of the test and the cost of the fix. Also derive general rules for developing specific solution algorithms for any problems within each category.
Design Strategy	
1. Teach the network part names	1. Teach how the network works when it works normally
2. Teach the cues to network malfunctions and which troubleshooting procedures goes with each	2. Teach a selection of categories of failures and how the network works with each failure category
3. Teach each procedural chain separately, using realistic simulations, until it is mastered; then go on to the next one	3. Within each category, teach the failure modes of components, the probability of each, the cost of each test or replacement procedure for each failure. Have the learner design algorithms by applying the general solution algorithm and general rules to the knowledge of network structure and function. Use realistic simulations, but provide feedback on the quality of the algorithm as well as success or failure in finding the fault.

Figure 5-4 Behavioral and cognitive science approaches

DataTraining (May, 1991, p. 24). Used with permission of Weingarten Publications, Inc.

the task itself is complex and the learner's abilities are very high. The combination of the target audiences' abilities and the nature and complexity of the task to be performed determine which learning theory is most appropriate. Obviously, the better the fit, the better the results. In short, it is the measure of the task's complexity, the learner's ability, and the course designer's use of effective methods based on appropriate theory that results in efficient, effective training programs.

Workplace Motivation

What drives the potential learner? What makes one individual more responsive to training than another? Let's first review the humanist approach and then look at some of the motivation concepts that impact training and the individual. Key motivation theorists include Abraham Maslow (1954), Frederick Herzberg (1959), Julian Rotter (1954), Carl Rogers (1983), and Douglas McGregor (1960).

A Humanist Approach

While behaviorists consider observed changes in behavior based on environmental interaction and the cognitivists consider internal mental information-processing activities, a third approach considers learning from the perspective of human growth potential. This approach, termed *humanist,* suggests that individuals are able to control their own destiny. People are inherently good and free to act. Behavior is the consequence of human choice and individuals hold unlimited potential for growth and development. Therefore, humanists do not accept the view of either the behaviorists or of Freudian psychologists, since these positions imply that behavior is determined by environment or by the subconscious. From a humanist's perspective, learning theory involves an individual's perceptions that are centered in experience and a person's ability toward self-determination. This principle is basic to the concept underlying self-directed learning, of which adult learning is a critical extension.

The effectiveness of workplace training is significantly impacted not only by the learning style of the trainee but also by the attitude held by the organization and its managers. If, for example, a firm's attitude is one of strong and directed leadership and if the learning orientation of the trainee is self-directed, conflict will probably occur. Likewise, if the training program is designed for highly-complex tasks and the trainee's orientation is behaviorist in nature, again, conflict will occur. It is the agreement between the organizational environment and the trainee's orientation that will provide for optimum results. The following is an

overview of the work of motivational theorists Maslow, Herzberg, Rotter, Rogers, and McGregor.

Maslow's Hierarchy of Needs

Abraham Maslow (1954) assumed that real motivation is inner-directed and is not something externally imposed or produced. Intrinsic—or inner-directed—motives, therefore, incite the individual to some kind of action. Moreover, as Figure 5-5 suggests, the lower, more basic level of human needs must be satisfied before the next level of human needs can be addressed. Until lower-level needs are fulfilled, the next level of needs do not serve to motivate. Also, more of the same need received does not serve to motivate. Needs are situational in nature—that it, they must fit the environment and timeliness of the experience.

If one assumes that learning comes from within, motivation to learn would not require stimulus-response activity or the environment to cause it. At the peak of Maslow's Hierarchy of Needs pyramid, self-actualization, one reaches the point where self-directed learning exists. As Maslow indicated, learning is a form of self-actualization and thus contributes to psychological health.

Herzberg's Two-Factor Theory

Frederick Herzberg (1959) suggested that because Maslow's lower-level needs are provided for by society, individuals are, overall, relatively secure. Because

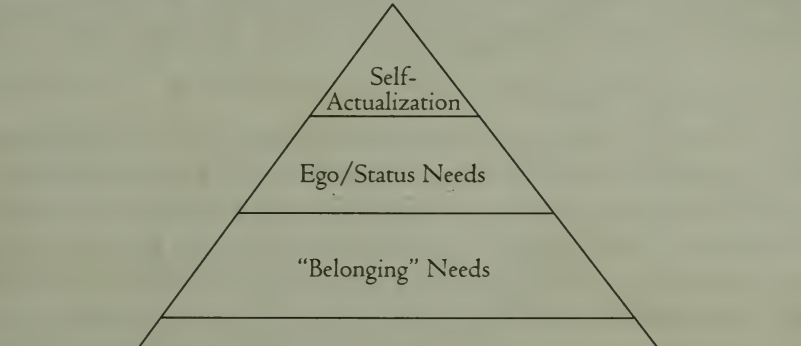

Figure 5-5 Maslow's hierarchy of needs

these lower-order needs are secure and, thus, satisfied, a neutral job attitude—or state of equilibrium—exists. The contrary also occurs—that is, if these lower needs are *not* satisfied, dissatisfaction occurs. Having job satisfaction, thus, results from having the worker's higher-order needs satisfied. If this does *not* happen, however, it would not necessarily lead to job *dissatisfaction* but rather to a "motivation-neutral" state. Work that is challenging tends to be satisfying. The reverse concept is also true—jobs that are not challenging do not satisfy and, therefore, do not attend to Maslow's higher-order needs.

Herzberg thus proposed a two-factor theory of job satisfaction. The first set of factors, called satisfiers or *motivators*, were those things that contributed to stimulating and challenging work. The second set of factors, termed dissatisfiers or *hygiene factors*, were those elements that contributed not to the stimulating and challenging work itself, but to the environment. Motivators or satisfiers include such things as achievement, advancement, growth, recognition, responsibility, and the work itself. Hygiene factors or dissatisfiers include company policy and administration, interpersonal relations with peers, subordinates, and supervisors; job security, salary, status, and supervision. Motivators describe the upper levels of Maslow's hierarchy of needs pyramid while hygiene factors fit into the lower portion of the pyramid.

Therefore, according to Herzberg's two factor theory, by enhancing the motivators and decreasing the negative impact of hygiene factors, one should improve not only a worker's productivity but his/her overall motivation as well. Training programs that clients readily see as addressing their need for satisfying work will be more readily accepted than programs that do not appear to meet these needs.

Rotter's Locus of Control

Most learning involves some type of human interaction. Social interactions that affect learning contain behaviorist, cognitivist, and humanist elements. Personality, one of the most important elements in interaction, has been identified with Julian Rotter (1954). Rotter's work suggests that within a social context, your personality impacts your learning style and orientation. This has been stated as "expectancy and reinforcement." *Expectancy* is defined as the probability that a particular reinforcement *will* occur as the result of some specific behavior. "The way in which the person . . . defines the situation will affect the values of both reinforcement and expectancy, thereby influencing the potential for any given behavior to occur."[11]

Rotter described personality types as being either inner- or external-directed. Internal or external *locus of control* suggests that some personality types respond to their internal or self-directed needs while others are external and respond to outside or "powerful others." Such individual motivation—internal or external—has a significant impact on one's learning orientation and, thus, on the effectiveness of

training styles and methods involved. Those who are internally motivated will tend to have personalities that are more self-directed and, therefore, will be more comfortable with learning activities that are also self-directed in nature. Individuals who are externally motivated may, by contrast, tend to be comfortable with a structured environment and with tasks that lend themselves to behavioralist approaches.

Rogers' Learner-Centered Approach

Carl Rogers, in his 1983 book *Freedom to Learn for the 80s*, applied the notion of client-centered therapy to education, which dovetails with Maslow's concept of self-actualization and self-directed learning.[12] Personalized learning of this type can lead to an individual's growth and development and fits with Knowles' (1984) concept of andragogy. Rogers suggests that the following elements comprise a humanistic learning approach:

- Personal involvement of the learner
- Self-initiated activity coming from within the individual
- Pervasive in that the activity effects behavior change
- Learner-evaluated and assessed
- Essence of learning takes on permanent meaning for the learner

Both Maslow and Rogers contend that if learning is to be worthwhile in a larger social context, the humanistic approach should be involved as contrasted with either the behaviorist or cognitivist approach. As adult problem-solvers, adult learners differ substantially from their early educational experiences as children, as these are generally grounded in the behavioral and cognitive theories.

McGregor's Theory X and Theory Y

In *The Human Side of Enterprise*, McGregor (1960) identified two separate and opposite concepts of human nature. These concepts were termed Theory X and Theory Y. Theory X suggests that individuals inherently dislike work and will, if possible, avoid it. Because they dislike work, people must be forced to perform to meet organizational objectives. These forces include a variety of pressures—coercion, control, or threat. Theory X contends that over a period of time the average worker has been conditioned to accept direction and prefers to be directed. S/he wishes to avoid responsibility, has little ambition, and desires security most of all.

Theory Y, on the other hand, suggests that work—the expenditure of physical and mental effort—is as natural as play or rest. And while they may be effective in some cases, external controls and threats are not the only methods of achieving organizational objectives. Individuals who are committed to bringing about organizational goals will exercise self-direction and self-control toward those ends without coercion and threats. The individual's commitment to organizational objectives

are functions of the internal rewards associated with one's achievement. Therefore, under proper conditions, most people learn not only to accept but to seek out responsibility. Individuals have a high capacity for imagination, ingenuity, and creativity in solving organizational problems—not the opposite. Sadly, however, within much of modern industrial experience, management has been more concerned with controlling than expanding the intellectual potential of the average employee.

Implications of Motivational Theory for Training

Carl Rogers' assumptions about *learners* provides an interesting contrast to the assumptions about *workers* provided by McGregor. McGregor's concerns dealt with assumptions by managers; Rogers' with assumptions by educators. Paralleling McGregor's concept of Theory X, but from within an educational context, Rogers suggested that students—under McGregor's Theory X assumptions—cannot be trusted to pursue their own learning. Teacher presentations of facts equals learning, and the aim of education is for the learner to accumulate pieces of factual knowledge. It also follows that "truth" is a known and teachable element; that creative citizens develop from passive learners; and that evaluation equals education and education equals evaluation.

Rogers then shifted the position relevant to experiential learning and used McGregor's Theory Y assumptions to suggest that people have a natural potential for learning and that learning occurs when the subject matter is perceived to be relevant. A great deal of learning is acquired through one's own activity and this is facilitated by participation in the learning process itself. Self-initiated learning, which involves the whole person—feelings, emotions, and intellect—is learning that is effective and permanent. Creativity in learning is encouraged when self-evaluation and self-criticism are primary, and evaluation by others is of secondary importance. The most socially useful thing to learning in the modern world is the process of learning, a continuing openness to experience, an incorporation of oneself into the process of change.[13] Figure 5-6 illustrates these comparisons.

Summary

Andragogy and *pedagogy* refer to teaching styles of how individuals are exposed to new skills, knowledge, and attitudes. Each style differs in assumptions about the learner and about the instructor. An understanding of learning theories is critical to the success of training and provides guidance in the assessment, development,

A Comparison of the Assupmptions About Human Nature and Behavior Underlying Theory X and Theory Y Management Philosophy	
Theory X Assumptions about Human Nature (McGregor)	Assumptions Implicit in Current Education (Rogers)
The average human being inherently dislikes work and will avoid it if he can. Because of this characteristically human dislike of work, most people must be coerced, controlled, threatened in the interest of organizational objectives. The average human being prefers to be directed, wishes to avoid responsibility, has relatively little ambition, wants security above all.	The student cannot be trusted to pursue his own learning. Presentation equals learning. The aim of education is to accumulate brick upon brick of factual knowledge. The truth is known. Creative citizens develop from passive learners. Evaluation is education and education is evaluation.
Theory Y Assumptions about Human Nature	Assumptions Relevant to Significant Experiential Learning
The expenditure of physical and mental effort is as natural as play or rest. External control and threat of punishment are not the only means for bringing about effort toward organizational objectives. Man will exercise self-direction and self-control in the service of objectives to which he is committed. Commitment to objectives is a function of the rewards associated with their achievement. The average human being learns, under proper conditions, not only to accept but to seek responsibility. A high capacity for imagination, ingenuity, and creativity in solving organizational problems is widely, not narrowly distributed in the population. Under the conditions of modern industrial life, the intellectual potential of the average human being is only partially utilized.	Human beings have a natural potentiality for learning. Significant learning takes place when the subject matter is perceived by the student as relevant to his own purposes. Much significant learning is acquired through doing. Learning is facilitated by student's responsible participation in the learning process. Self-initiated learning involving the whole person—feelings as well as intellect—is the most pervasive and lasting. Creativity in learning is best facilitated when self-criticism and self-evaluation are primary, and evaluation by others is of secondary importance. The most socially useful thing to learning in the modern world is the process of learning, a continuing openness to experience, an incorporation into oneself of the process of change.

Figure 5-6 McGregor/Rogers comparison

implementation, and evaluation of the training activity. Individuals differ markedly in the ways they learn. These differences include individual learning styles that may be behavioral, cognitive, or humanistic—or some combination of all three.

Since "learning how to learn" is essential for organizational success now and into the twenty-first century as new information makes previously-acquired knowledge obsolete, it is critical that trainers be equipped with the skills, knowledge, and attitudes to cope with the pressures these demands will certainly bring. Knowing the trainee's learning style; understanding learning theories and contexts within which each is most effective; and evaluating training results are all hallmarks of the effective trainer.

Learning theories generally fit within three basic models: behaviorist, cognitivist, and humanist. The *behaviorist* model suggests that observable changes in behavior, as a result of training or stimuli, reinforce learning. For a behaviorist, learning occurs when a demonstrated behavior change occurs. The *cognitivist* suggests that perception, meaning, and insight are keys to learning and that learning how to learn occurs through discovery, flashes of insight, and motivational activities. When learning is viewed from the perspective of human growth potential and stresses the motivational development of the learner, an individual's needs, locus of control, and self-direction are strengths of the *humanist* perspective. Figure 5-7 compares these models.

Finally, individuals respond in accordance with their perceptions and reactions to motivation. The individual may be driven by external factors—directed leadership, coercion, and threats—which, to one who is externally-motivated, may prove effective. However, to an inner-directed person, this same type of motivation may result in just the opposite reaction and thus be counterproductive. Likewise, those who are inner-directed and respond well to encouragement and higher levels of responsibility would blossom in corporate environments of a sharing and caring nature. What serves to motivate one person is not necessarily what will motivate another. A sensitive and competent trainer, well-versed in motivation theories, must also be expert in assessing individual learning needs as well as the learning style of the trainee.

No one theory will fit every training experience due to the complexity of human nature, the content and the context of the tasks to be learned, and the environment within which training occurs and is to be applied. It is critical for the trainer to be aware of these theories in order to make the most effective bridge between trainer and trainee. Learning in its most effective context may never be completely identified and isolated. It is known, however, that for effective learning to occur, the fit between the learner, the content of the material to be acquired, the environment, and the instructor or trainer must be as congruent as possible. Learning theories provide this guidance.

Element	Behaviorist	Cognitivist	Humanist
Learning process view	Behavior change	Internal mental process action	Personal potential fulfillment
Learning locus	External	Internal	Affective and cognitive
Education's purpose	Behavioral change	Capacity to learn	Self-actualization and autonomus
Role of instructor	Sets environment	Structures content of learning	Facilitates whole-person development
Adult learning connection	Behavioral objectives, competency-based training, skill development training	Cognitive development, memory, and learning how to learn	Andragogy, mentoring, locus of control, and self-directed learning
Learning theorists	Thorndike, Pavlov, Skinner	Lewin, Piaget, Bruner, Gagné	Maslow, Rogers, Rotter

Adapted from Merriam, S. B. and R. S. Caffarella, *Learning in Adulthood.* San Francisco: Jossey-Bass, Inc., 1991.

Figure 5-7 Learning orientation summary

Questions

1. How might learning styles differ between a college student and a new employee of a large organization?
2. What are the primary characteristics of the following learning theories: behaviorist, cognitivist, and humanist? Of what value are they to the training professional?
3. What critical elements are required for the development of a behavioral objective in the cognitive, psychomotor, and affective domains? Write three objectives relative to a course on public speaking.
4. What motivated you to take this course or read this book? Analyze your

motivation using terms found in this chapter. Were you inner- or externally motivated?

5. A Theory "W" manager has been described as a Theory X manager masquerading as a Theory Y manager. Can you offer examples of Theory "W" behavior in the workplace or at your school?

6. For the following situations, which pedagogical or andragogical elements would be most effective?

   - keyboarding class
   - sexual harassment seminar
   - presentation skills course
   - new EEOC guidelines seminar

Applications

1. Compare the learning style of five of your classmates and compare/contrast them with five others who are fully employed. How do their styles differ and what might account for these differences?

2. Examine your own learning style and compare it with your motivational orientation. Are you in congruence or are there differences? If there are differences, what might account for them?

3. Observe an introductory class in the natural or computer science area and note the professor's instructional style. What approach was used; and why, if you can find out, was this style was selected? Compare this observation with one in a training environment and note the differences, if any.

Additional Readings

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A classic in the field of developing behavioral objectives, this little text provides a step-by-step approach that involves Bloom's taxonomy and the appropriate verbs to use in developing cognitive behavioral objectives for each of his six stages.

Kemp, J. E. *Designing Instructional Systems.* Palo Alto: Fearon, 1964, 164 pp.
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Krathwohl, D. R., B. S. Bloom, and B. B. Masia. *Taxonomy of Educational Objectives. Book 2: Affective Domain.* New York: Longman, 1964, 196 pp.
The second in the taxonomy series focusing on the affective domain. A five-step taxonomy is provided along with a series of appropriate verbs to apply.

Merriam, S. B. (ed.) *An Update on Adult Learning Theory.* New Directions for Adult and Continuing Education, Monograph No. 57. San Francisco: Jossey-Bass, Inc., Spring 1993, 116 pp.
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Endnotes

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12. Rogers, C. *Freedom to Learn for the 80s.* Columbus: Merrill, 1983, p. 20.

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Chapter Six

Training Program Design

Highlights

- An overview of the training design process, including a detailed example
- The training design funnel: a means of clustering learning needs
- Detailed discussions of important program development issues
- Perspectives on evaluating instructional design
- The importance of the Leader's Guide in the design of training programs

The Design Process

The output of needs assessment, Step I of the training cycle (see Figure 1-7), is the input for the *training design* phase of the cycle. Needs assessment provides a picture of what members of the organization must learn, with a reasonably clear indication of the depth of coverage required. The process of training design begins with these learning needs.

The first step in design is to group the learning needs together into logically

connected clusters. Next is to decide which clusters will be linked together to form the *goals* or *outcomes* of a particular training program. The goals of the program are then, one by one, broken down into *learning objectives*: the specific things which the participants must *know* or *be able to do* as a result of completing the program, one or several such learning objectives for each program goal.

Cognitive and Behavioral Outcomes

The distinction between the terms just mentioned, *know* and *able to do*, is an important distinction between *cognitive* and *behavioral* learning outcomes, respectively. In Chapter I of this text, these types of outcomes were referred to as *informational* and *operational* training. Whatever the terminology used, both types of learning outcomes represent legitimate organizational needs. There are those who argue that training should concern itself exclusively with behavioral outcomes, with skills for *doing* (see the work of Robert Mager). This argument contends that knowing things—a cognitive outcome—is the result of education, not training, and that a training department cannot stop at knowing but must *always* and *only* deal with programs that deliver physical skills as outcomes, physical skills which are job behaviors in the workplace.

Whether or not one agrees with the theoretical validity of this position, the simple reality is that an organization often has a need for its people to know things, without necessarily requiring them to turn that knowledge into specific behaviors. Moreover, providing a way for people to obtain the needed knowledge is frequently seen as a training responsibility. *Awareness or informational programs*, with cognitive outcomes, are the result. Such programs can take many forms and serve many organizational purposes. An example is the organization's need for employees to understand—*know*—its strategic direction. Another example is the need for managers to understand demographic or societal or industry trends. Still another kind of awareness program, often critical to an organization's success, is a management overview of a product and its potential. The outcome of this last kind of program is *precisely* one of awareness, a conceptual grasp of the features and power of a product—e.g., a new line of artificially intelligent oil drilling rigs—as distinct from the ability to *use* it.

A particular organization may view informational programs as the province of its communications department or, in the case of product knowledge, see them as the marketing department's responsibility. The plain fact is that many organizations consider informational programs as belonging to the training department. Thus, cognitive outcomes are often the target of training program design. The training professional should recognize that informational programs offer a great opportunity to contribute to the organization's operation and bottom line, a chance to add real value. Informational training programs can mobilize people's energies around a new organizational vision. They can galvanize motivation in the face of

an industry challenge. They can ensure understanding of critical business decisions, and they can orient people to new organizational structures or policies. Providing programs which deliver these kinds of information—all *cognitive* outcomes—is a significant organizational contribution.

Furthermore, informational programs often provide a big picture perspective that is ultimately more important than specific behavior. Informational programs may in fact provide an absolutely necessary context for behavior, a context without which the most perfectly sharpened skill is useless. In short, a training professional should expect to deal with both cognitive and behavioral learning outcomes, both informational and operational programs, both education and training.

A Training Example

Training design is a complex process. It takes into account the purpose the organization wants the training to achieve, appropriate principles from learning theory, and pragmatic considerations such as cost and organizational sponsorship. We will begin our discussion of this process by exploring an example. Suppose an organization's needs assessment indicates that its supervisory staff needs to learn the correct policies and procedures concerning performance management. When further reviewed, this generic need results in the following three things the company wants supervisors to learn—for example, three desired learning outcomes—goals—for a training program in performance management:

1. Supervisors must know the company policy on performance management (a cognitive learning outcome).
2. Supervisors must be able to follow ~~follow~~ the company rules and procedures in managing employee performance. This means four specific things (all behavioral outcomes):
   a. set individual performance objectives and measures of success
   b. monitor performance against objectives, using agreed upon measures
   c. coach ongoing performance to ensure alignment with objectives
   d. communicate performance judgments to employees
3. Supervisors must know the legal limits concerning performance management: pitfalls to avoid, risky language, etc. (another cognitive outcome).

The Design Team

A team from the company's training department is assigned to design a program to address the learning needs identified above. The team's first step is

to seek a wider representation of the organization in this design effort. They believe this is especially important for this particular training program because the outcomes of the training will touch virtually everyone in the organization. They therefore want all or most departments involved in the design effort. They do not want the program to be the creation of the training department alone. Thus, they enlarge the design team to include all the major departments and hierarchical levels within the organization. They make a point of including non-management personnel who are the recipients of the performance appraisal process. They also seek out representation from the human resources and legal departments to ensure proper handling of employee relations and legal technicalities.

From Learning Goals to Program Modules

The expanded design team studies the findings of the needs assessment, the three learning goals mentioned above. They make a preliminary judgment that all three learning outcomes can be achieved in a training program that will be one to two days in length. They group outcomes #1 and #3, policy and legalities respectively, into a single awareness module. They cluster outcome #2, behavioral issues, into a skills module.

An Awareness Module

A. The organization's policy on performance management consists of four points:

1. All employees will receive a formal appraisal of performance at least once a year and will sign a summary of the appraisal discussion as proof that it took place (the actual appraisal itself may be oral or written, at the manager's discretion.)

2. Managers will involve employees in setting performance goals and in defining measures of successful goal attainment.

3. A mutually accepted professional development plan—or a mutually signed explanation of why one is not appropriate—will be one result of every employee's appraisal.

4. Part of every manager's own performance plan will be how well s/he does performance appraisals for employees, as measured by signed summaries of appraisals filed for all the manager's staff members (see A,1 above) and by anonymous feedback from appraisal recipients as captured in regularly scheduled company-wide climate surveys.

B. The legalities of dealing with performance appraisal are:

1. Appraisals against objectives other than those mutually agreed upon are unfair and may put the organization at legal risk.

2. Discriminatory language or practices may not be used.

The design team determines that the program will open with a module which explains the details under Points A and B above. This will be Module #1 and will serve as a conceptual introduction not only to the subject of performance management but to the program itself. This introduction will present both the policy aspects of performance appraisal and its legalities as a sort of umbrella set of definitions under which the specific skills and practices of appraisal will fit. The introduction will deliver the awareness of policy and legalities—the cognitive learning outcomes—which the organization considers necessary for its managers.

A Skills Module

The design team next turns its attention to the requirement that supervisors learn the actual procedures the company wants followed in managing employee performance, items (a) through (d) under program goal #2 above. The team spells out very specific behaviors necessary for item 2a, then item 2b, and so forth—the action steps a supervisor must actually take to carry out each of the tasks identified in the list. These actions are specified in the form of *terminal behaviors*—i.e., what the successful program participant (one who has successfully learned) will be able to *do* at the *termination* of the program.

Program goal #2 is "Supervisors must be able to follow the company rules and procedures in managing employee performance." The design team develops more specific learning objectives for this program goal. These learning objectives are the items underlined in the following list. The team then goes on to specify these learning objectives still further—creating for each objective a statement of the detailed behaviors supervisors must be able to do if they are to carry out the organization's policy regarding performance management. These detailed behaviors are the terminal behaviors for this module of the training program.

The following example shows learning objectives that support program goal #2, with the required terminal behaviors listed for each learning objective.

2a set individual performance objectives and measures of success
at the end of this program, a supervisor shall be able to:

➢ identify specific performance goals for individual employees which result in the achievement of assigned job responsibilities

- ➢ identify measurable indicators of success for each goal identified
- ➢ include staff members in the definition of goals and measures
- ➢ establish check points during the planned performance period to review performance objectives and redefine them as needed

2b monitor performance against objectives, using agreed upon measures
at the end of this program, a supervisor shall be able to

- ➢ establish reporting mechanisms and/or project milestones to ensure performance is reviewed in a timely and realistic way
- ➢ review interim performance results to ensure they are on track to achieve planned objectives
- ➢ utilize mutually agreed-upon measures in reporting/reviewing

2c coach ongoing performance to ensure alignment with objectives
at the end of this program, a supervisor shall be able to

- ➢ exhibit helping, rather than fault-finding, behaviors in reviewing performance outcomes with employees
- ➢ assist staff members in finding ways around difficulties they may be encountering in achieving desired results, offering perspectives they may not have thought of or resources they may have overlooked
- ➢ assist staff members in setting/adjusting/sticking to priorities

2d communicate performance judgments to employees
at the end of this program, a supervisor shall be able to

- ➢ discuss performance in terms of results and job behaviors rather than in personal terms such as motivation or attitude
- ➢ when the situation calls for it, state clearly and directly to staff members that performance results were unacceptable and why, utilizing agreed-upon measures of success and remaining calm in the face of negative employee reactions.

The Training Design Funnel

The design team in our example has now documented the "what" of its proposed training program. The careful listing of program modules, with learning objectives and terminal outcomes for each module, creates a full, clear outline of what the proposed training will cover. This outline serves to document their plans, both for their own further work in developing the program and for review by other interested parties. (See the later discussion concerning reviews by various stakeholders.)

The design team has taken a set of generic learning requirements for supervisors and turned them into learning objectives for a training program—*terminal knowledge* (awareness gained by the end or *terminus* of the program) and *terminal behaviors* (skills acquired by program end). This design process is one of progressive narrowing, a narrowing that can be graphically represented as a training design funnel as shown in Figure 6-1.

Planning the "How" of Training

The first four layers of the design funnel pictured in Figure 6-1 focus on the "what" of training: what it is that program participants need to learn, clustered into logical groupings and stated in a way that can be used by the design team to develop program activities and materials. A cautionary word is in order here. Trainers often move too quickly into the last layer of the design funnel, the "how,"

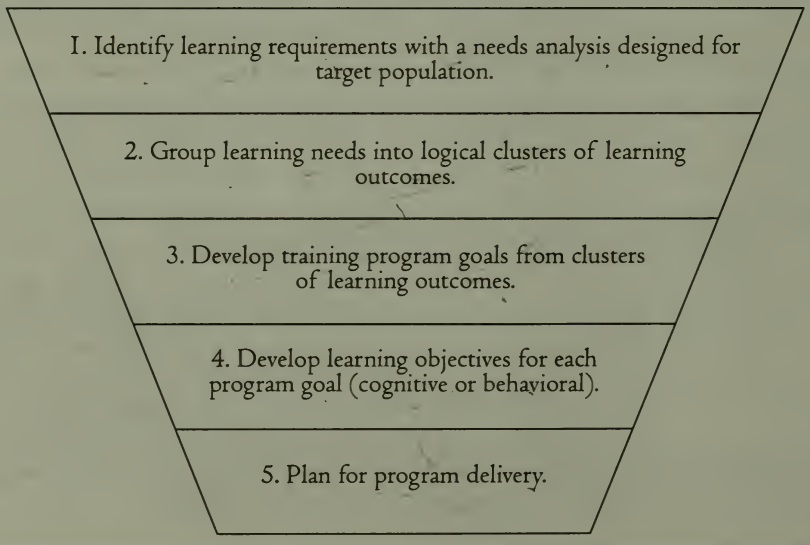
1. Identify learning requirements with a needs analysis designed for target population.
2. Group learning needs into logical clusters of learning outcomes.
3. Develop training program goals from clusters of learning outcomes.
4. Develop learning objectives for each program goal (cognitive or behavioral).
5. Plan for program delivery.

Figure 6-1 The training design funnel

the focus on planning program delivery. For many trainers, this is where the most excitement and the real fun lie in the design process. This is perfectly understandable, since program delivery is where the teacher meets student, precisely the interaction point that most trainers like best. Moreover, program delivery is concrete, familiar work with tangible outcomes, additional reasons for its appeal. It is important, therefore, to make sure that the "what" of training receives due attention in the design process.

The final layer of the design funnel reads "plan for program delivery." This is the next step in the design process. Given the clear picture of learning objectives it has so far created—cognitive and skill objectives, or the "what" of the program—the design team shifts its attention to the "how" and begins to plan the ways in which the program will present material to its participants to enable them to learn the planned program outcomes.

The Design Worksheet

Typically, a design team uses a worksheet something like the one in Figure 6-2, one worksheet per program goal.

The purpose of the design worksheet in Figure 6-2 is to plan in complete detail how to deliver instruction so that participants will learn what is needed for the successful attainment of a particular learning objective. The team creates a worksheet for each learning goal of the program, clustering worksheets into modules or program sections. Recall that in the program structure assumed here, each module of the program contains one or more program goals, and each program goal is broken down into one or more terminal learning objectives. It is at the level of these last items, the learning objectives, that the design worksheet plans program activities.

The Design Challenge

The major focus of training design at this point is the activity column in the design worksheet (Figure 6-2), and the work involved is on the creative side of training responsibility. Here is where trainers bring their professional specialty to bear—devising ways for people to learn what they are supposed to learn, and learn it faster, easier, better, and with greater retention than if they were merely left to their own devices. Here is the place where the techniques and tricks of the training trade are employed. Here is where the decisions are made to use live instruction or some form of self-study and whether to include pre-work. Here is where the instructional choices are made concerning the use of feedback instruments or computer-based instruction or video (to deliver information or for skill practice feedback.)

The challenge of training design here is heightened because unlike preparing course material for one's own use as a teacher, the design team is faced with the necessity of creating instructional material that will be used by others. This makes

*PROGRAM NAME:*_____ *WORKSHEET DATE:*_____

*MODULE #*_____ *MODULE NAME:*_____

*PROGRAM GOAL#*_____: *(statement of goal, cognitive or behavioral)*

LEARNING OBJECTIVE	*ACTIVITY*	*TIMING*	*MATERIALS, COSTS*	*WHO*
I	what will be done in the program to ensure participants acquire this piece of knowledge or this behavior—e.g., instructor lecture, showing and debriefing a video clip, group work, quiet time, role play with group feedback, etc.	length of time planned for this activity	whatever materials may be necessary for this activity—a film, flip charts, handouts, game material, etc. costs of developing the materials needed for this activity	the parts played by each actor in the program—the role of the instructor—the participants, guests, etc.
2				
3				
N				
TOTALS	Total time estimated for this module →	Hrs/mins	Total cost estimate: $	

Figure 6-2 A training design worksheet

a necessity of thoroughness far beyond personal preparation. It requires spelling out every single step and every nuance of every step. One can, after all, sum up a great deal in personal teaching notes with a single word or phrase, assuming correctly that one knows one's own mind. Such an assumption is a luxury the design

team does not enjoy. As it creates and describes activities for learning objective after learning objective, the team must always remember that others will be delivering the material. The designers themselves may teach the pilot offering of the program and can thus leave the final fine tuning until the pilot is completed. But they will eventually have to be exhaustively explicit about every single instructional step and incorporate the details in a *Leader's Guide.* The Leader's Guide will be described later in this chapter.

A major responsibility of the training professional is, of course, to see to it that the activities designed into a program follow good instructional and adult learning theory. There must be variety in the activities, with much more emphasis on interaction and group work than on lecture. The design should draw on the experience and pre-existing knowledge of the learners. The program must accommodate individual differences, while at the same time clearly conveying the messages that the organization wants people to hear and learn. The program must reflect awareness that adults are motivated to learn by pragmatic need on their part rather than by the theoretical value of the material presented to them. The organization and its culture must always be the backdrop for the methods and activities the program includes. Above all, designers must work with one eye always on the realization that the goal of the program is participant learning and *nothing else.* The goal is not elegance of materials nor cleverness of design, and it is certainly not ease or novelty in instruction.

Finally, design for adult learning should go to any lengths to ensure/empower learning. At the same time, it should be prepared to cease and desist when the learning has taken place. A program's activities, its instruction, and indeed its very design, are all totally in the service of participant learning. When the learning has taken place, the knowledgeable trainer gets out of the way, satisfied that the training task has been accomplished. Good training design keeps in mind that the program is a means to an end, not the end itself.

Program Development Issues

Module is a word used in this book to organize programs into manageable segments. Modules are rolled up into *units,* and units into *days,* but nothing is sacred about the terminology used here. A variety of words and outlining approaches can be and are used by trainers to compartmentalize their programs—unit, section, segment, component, module, etc. What *is* important is that the program, having been framed overall in terms of content, must now be segmented. The segmentation allows the design team and ultimately participants to focus on deliverable/learnable pieces of the content, one piece at a time. The practice reflected in this book is to divide programs into *days,* days into *units,* units into *modules,*

the last being the smallest, basic division in a program. Each module delivers one or several learning objectives (cognitive or behavioral.) It is, of course, possible to omit the unit level of organizing material and have just modules per day, in which case the modules would be numbered 1-N for each day or 1-N for the entire program. Whatever the decision as to levels of organization and terminology, one design worksheet per program goal builds the program from the bottom up.

It should also be noted that programs can be linked together to form a curriculum, a series of courses that lead as a whole to some larger, overall learning objective. Curricula are perhaps most often established for management development, where the organization has an interest not only in learning outcomes that can be delivered via individual programs but in a planned progression of programs spread over time. The management development curriculum, for example, is often a sequence of learning events that intersperses traditional classroom programs with developmental job rotations, university courses, etc. Other subject matters may also lend themselves to being organized into curricula, depending upon the organization and its interests. A good example of a curricular approach is to be found in the corporate universities (see Chapter 1), where specific corporations have developed curricula based on their belief in the benefits of an integrated, long-term response to learning needs.

Stakeholders and Sponsors

A program's design worksheets can and should be shared across the whole design team and with others as well. The worksheet is a perfect tool for obtaining reviews from colleagues on the design team and from various stakeholders in the organization concerning what the program is aiming at and how it is going about achieving that aim. Very often, particularly in the development of mission-critical management training programs, a training design team will set up some sort of formal sponsorship for its program. Sponsorship often takes the form of a board of reviewers who provide input into the program content and evaluation plan, critique its proposed processes and materials, help select participants for its offerings, and evaluate the program both at the pilot stage and (ideally) thereafter. Sponsors also sometimes play a role in the actual delivery of the program, kicking it off with an opening talk, teaching one of its modules, or hosting a cocktail party or dinner as part of the agenda. In general, sponsors help establish the program's validity for, and credibility with, its intended target population, and are almost always a resource a design team should use.

The design team and other stakeholders must ultimately review and accept the program as a whole. An ideal vehicle for this review is a module by module outline of the program mapped into the time frame the design team recommends. That is, once all learning objectives have been covered and the worksheets are

complete, the modules are allocated a time slot in the program. The scheduling process is on-going, so that the time required for the various learning activities can fit into the total time available for the program. The ideal, of course, would be to design the learning activities and let the time requirements be simply a function of the design. This ideal is rarely available in the real world of training. There is almost always a requirement that the program take only *x* amount of time, a constraint the design team must accommodate.

Program Sign-off

In any case, the design team produces an overall module-by-module outline of the program in the time allocated to it (or being asked for/proposed). Module worksheets should be attached as supporting detail, with break times included in the outline. The result is the ultimate review and sign-off document, the full statement of what the program in question will deliver: what its topics are, what its participants will learn, what the instructional material will be, and how the delivery of that material will be accomplished. A program outline for a corporate new-hire orientation program is provided here as a sample in Figure 6-3.

Program Costs

The worksheet shown in Figure 6-2 includes a cost estimate for developing materials for each activity. Development costs are totaled at the end of each worksheet. Such estimates are important because there is usually a dollar limit at work in the design process. While design should ideally dictate the program's budget, the reality is that often budgetary limits are set for the program. The total cost of developing the program is a major factor in its design, and there is more than one instance of a design being returned to its makers for re-work based upon budget unavailability (or, more rarely, availability).

The design team must also give thought to the cost of rolling the program out once it is designed. That is, the costs of developing a program are not limited to design factors like the cost of making the master of a film or a workbook or a set of handouts. There are also implementation costs. These costs include the expense of making copies of master documents or films and the purchase of consumables the program requires. The consideration of implementation costs must be part of the design team's choices of materials and activities and must be included in its estimates. Whether the design team begins with an upfront budgetary limit or was given a free hand to propose a program and associated costs, the budget for development and rollout must be approved before the design team can proceed any further. Note that a major cost consideration is whether the development work will be done by in-house or contract resources (see section below on internal vs. external development).

PROGRAM: New Hire Orientation (one day, no units; module details attached)

start:	8:30 a.m. (coffee available 8:00)		minutes
	MODULE 1:	Ice breaker + self-introduction by new associates (Facilitator-led)	30
	MODULE 2:	"From Today to 2000 - The Company Vision" (Guest Lecture - Management Committee Member)	30
		Group Exercise - Implications of Vision/Values (Facilitator-led, group reports/drawings	60
out:	10:30		
		—— break ——	15
back:	10:45		
	MODULE 3:	"How We Make Our Money" (Guest Lecture - Business Development Group)	45
		Business Simulation - whole class exercise: tracing a customer purchase through the company	45
		"What We Look Like This Morning" Facilitator lecturette on organization at the corporate level + major staff resources	30
out:	12:45		
		—— lunch ——	75
back:	2:00		
	MODULE 4:	"Where We Came From" (Video, company history)	30
	MODULE 5:	"Where We Are & Where We're Going" Current Major Business Initiatives - teams of program participants interview visitors representing each initiative, prepare team presentation to whole class, visitors present for questions (activity includes break time)	120
	MODULE 6:	Company Jeopardy (Facilitator-led game as review of the day)	30
end:	5:00		

Figure 6-3 A program outline

Instructional Materials

With the program reviews in, the original plans modified to the satisfaction of the design team and its reviewers/sponsors, and the budget approved, work can start on the creation of materials for the learning activities planned for the program. Creation can, of course, start earlier, and often does, but the bulk of materials

development should wait until the team is certain of the final form of the program and the funds available.

The design worksheet in Figure 6-2 provides for planning the materials needed for program activities. The next step is to actually create learning materials, which range from the simple to the complex, from the everyday to the unusual. Lectures, games, a vast array of group activities, individual work, simple reading, case studies (both paper and electronic versions), and computer-based material are examples in an endless list of program activities that support learning. Delivery strategies are limited only by the imagination of the designers and the constraints of reality factors like cost and time. The only other proviso is the overarching principle that participant learning is the most important consideration of all.

Many good sources of off-the-shelf instructional materials exist. Two magazines, *Training and Development* (National ASTD Office) and *Training* (Lakewood Publications), are filled issue after issue with ideas for a wide variety of instructional material and approaches. In their articles, their regular features, and their advertisements, both magazines offer suggestions, samples, experience (both successful and not), and sources of materials. In addition, two annual publications specialize in instructional materials: *The Training and Development Yearbook*, edited by Richard B. Frantzreb and published by Prentice-Hall, and *Annual: Developing Human Resources*, edited by J. William Pfeiffer and published by The Pfeiffer Company, San Diego. Both of these latter publications stretch back for several years, both are filled with actual games and exercises and ideas to use, as well as articles discussing trends in the field and experiences with various kinds of materials.

Internal vs. External Development

It is possible for a training department to hire contract resources to help with its work load. The issue that usually comes first to mind when this possibility is brought up is cost. Consultant costs in the field will vary depending upon locale, type of assignment, subject matter, level of the contractor's experience, length of the consulting relationship and frequency of its use, and any number of other factors as well. In New York City, at the time of this book's publication, training consultant costs typically began at approximately $850 per day for program delivery, somewhat less for simple design consulting.

Consulting help can also be purchased on the basis of a fixed price for a stipulated product rather than a daily rate. Again, based upon experience in New York City, for a consulting firm completely to develop a 3-day management training program, from initial design through delivery of a pilot offering with all materials, including a full Leader's Guide, and with the program then belonging totally to the client, the cost would be in the neighborhood of $150,000

for a generic program, and $250,000 for a fully custom program. These are prices for a program based upon live classroom instruction. Other forms of instructional delivery result in different cost estimates. The generic estimate for creating a video or a movie is $2,500 per finished minute for a professional level, commercial quality training film. For computer-based training (CBT—the delivery of instruction by a computer), the usual rule of thumb is $20–30,000 of development cost for an hour of CBT, with all the necessary support and ancillary materials included.

CBT is increasingly being done on and for multi-media desktop workstations, incorporating sound, moving graphics, and video into the instructional delivery. Cost estimates for state-of-the-art multi-media programs typically range around the $50,000 mark for each finished hour, again including all appropriate support materials.

Large as these numbers loom, money is not the only—and perhaps not the most important—issue in decisions about using in-house or consulting resources to design a training program. Consider these others:

- ***Desirability of the task.*** Design is often the creative, fun part of the training job. Some people even consider design as having a higher status than other training tasks. It thus might be wise to keep design in-house and if resource shortages surface, contract out some of the training department's delivery responsibilities instead of the design.

- ***Credibility.*** This is a bit of a tricky issue. Both inside and outside resources can bring credibility to a program. The perspectives of an outside consultant add war stories about other organizations or situations, and can easily be considered more reality-based, less inbred, more credible. This perception of the outsider may be groundless, but it is no less real for all that and should be used to good advantage when it helps people pay attention and learn. On the other hand, there are times when only an insider will do: a program on the organization's strategic direction would typically not best be taught by an outsider, no matter how gifted or experienced.

- ***Skill.*** It is entirely possible that the training department's own personnel may not have the experience or knowledge to handle the design task. It may be that consulting assistance is absolutely necessary. This is also a situation where a team approach, with insiders learning from outsiders, provides win-win possibilities.

- ***Time.*** It can easily happen that the need for a program to be available *soon* means that outside help becomes an imperative. This is particularly true

if the outside help already has a program on the shelf that largely or even partially fills the learning need being targeted.

Evaluation in Instructional Design

Evaluation was discussed in Chapter 3 in great detail. However, for emphasis here, consider the following two points concerning evaluation in training design.

1. One kind of evaluation examines the learning outcomes of the program in design. Designers must take the time during the design process to ask themselves over and over, for each learning objective, "How will we know this particular learning outcome has been achieved?" Sometimes, design teams even add this question as another column on the design worksheet pictured in Figure 6-2.

2. The second kind of evaluation concerns the quality of the design itself. Training design includes the activities planned to deliver the learning objectives, their sequence, their instructional logic, the materials developed for use in the program and the instructions for their use. These components of design must be repeatedly evaluated in the design process itself to make sure they serve the required learning objectives and to ensure they meet the criteria of good instruction in general and adult learning principles in particular.

While the design team itself must constantly evaluate its own work as it proceeds through the design process, it is important that others assess the design outcomes on these dimensions. These others can be other training professionals, sponsors and clients of the training program(s) being developed, and particularly potential participants. The basic principle here is that it is important to bring the eyes of others to the evaluative process, eyes which see things from different perspectives.

A very productive way to involve key stakeholders in evaluating the design is the use of a materials test or one or more pilot offerings of the program. Both of these strategies involve getting what has been designed conceptually or in draft form into useable shape, then actually *using* it with an audience and folding the resultant reactions back into the design process. Pilot offering(s) in particular are a powerful way for the design team to test its ideas in a simulation of the real world. And pilot offerings need not necessarily wait until the training program is 100 percent complete. Pieces of the program, a particular module or a specific exercise or a new feedback instrument, can be tested with sample participants all along the design path. Pilots are especially important if there are differing audiences to whom

the program must be delivered—for example, participants at very different levels within the organization or people from different geographies.

The most important principle of training evaluation is this: it must be planned for up front. It cannot be left to last, treated as an afterthought, left until the program activities have been identified and the materials developed. Chapter 3 dealt with methods of evaluation, and that material will obviously not be repeated here. What does bear repeating is the overriding goal of evaluation itself: does the training program help its participants learn what the organization needs them to learn and do they take what they have learned back to their work? These are the essential questions that the design team must answer if it is to know if the planned learning objectives have been achieved. The answers to these questions may even have a bearing on the instructional activities, methods, and materials the team develops in the body of its design work. Thus, evaluation activities cannot be left to the end of the project.

The Leader's Guide

Leader's Guide is a generic term for a critical item in the design of a program where content will be delivered by live instruction. The Leader's Guide may go by other names: Trainer/Instructor/Facilitator Guide, Teaching Outline (as distinct from a content outline), Teaching Manual, even Lesson Plan. The name is not so important (we use the term Leader's Guide here), but the item itself is crucial and a major design task. The Leader's Guide is the ultimate "how to" training manual. It tells the instructor how to use the program's activities and materials to enable the participants to achieve the program's learning objectives. It is much more than a mere content outline, which is simply a list of the points to be covered in the program. A Leader's Guide is detailed instruction on how to deliver the program content, what to say, how to say it, and how to make transitions from module to module. While the Leader's Guide is not a script, it *is* a statement of all the talking points the instructor is expected to make; it states what must be said, while allowing the instructor to put it in his/her own words.

Consistency of content and preparation assistance are the two goals underlying a Leader's Guide. There are even situations where an organization's need for consistency of message makes the Leader's Guide a means of control over delivery, where little or no deviation from the Guide is allowable. More frequently, the Guide gives an instructor a running start, eliminating the need to do program preparation from scratch since it provides the bulk of what needs to be said. Good examples of Leader's Guides are usually to be found for corporate programs, those an organization wants delivered the same all across its reach, or for training programs for which a training vendor certifies instructors in its customer companies or on the open market.

A Leader's Guide should be the design team's final effort. It is often done in progressive stages of draft versions, each approximating the final product and fully completed only with the program pilot(s). A practical way of getting the Leader's Guide written that has evolved in a training department known to the authors involves the use of outside consulting resources. The department developed the practice of members of the design team teaching the pilot offerings of its programs and hiring a consultant to observe the pilot, armed with detailed program outlines and design worksheets, with the goal of documenting what the design team instructors do and say. The consultant then used these documented observations, plus the supplied materials, to produce a Leader's Guide.

With regard to external programs being purchased or designed by an outside consulting resource, both detailed content outlines and Leader's Guides are important items for a potential purchaser of training to expect to receive. A sufficiently detailed content outline documents *what* a program will deliver, enabling the potential purchaser to make reasonable judgements as to the program's fit with what is needed. A Leader's Guide will specify not only *what* will be delivered but *how* the delivery will be achieved. This will help the purchaser make reasonable judgments concerning the content, methods, and schedule of a program being considered for purchase.

Both program dimensions—*what* and *how*—are topics on which good judgment must be exercised, and the demand to see both is entirely reasonable. It will sometimes be resisted by a training vendor, especially the request for a Leader's Guide. Fears that intellectual property rights will be infringed are part of such resistance, but there are contractual ways to protect such rights and non-disclosure agreements are a standard feature of research-to-purchase agreements. The resistance is also often grounded in the fact that a true Leader's Guide does not exist—content outlines are often proffered instead—and it is an enormously demanding task to produce one. Insisting on a Leader's Guide is reasonable, however, since one of the reasons a consultant instructor commands a larger daily fee than a simple consultant is that the instructor must spend preparation time getting ready to teach. A Leader's Guide is essentially the documentation of that preparation and ought to be available given the proper professional and legal safeguards.

Summary

The process of designing a training program begins with the output of the needs assessment which has revealed what it is that people in the organization need

to learn. These learning requirements are grouped into logical clusters, which then become the planned outcomes of training programs to be created. Some outcomes call for learning cognitive skills, *knowing* content. Other outcomes call for learning behavioral skills, how to *do* something. Program design is typically done by a team of people, and the process of design is initially one of progressively narrowing the needed content down to specific learning goals that can be defined as terminal learning objectives and delivered in the modules of a program.

Module by module, the design team plans the activities that will enable program participants to achieve the learning objective(s) for that module. The modules are then aggregated back up to form the program as a whole. One of the key challenges for the design team is that it is creating learning and instructional material for use by others, not simply for themselves. An important design activity is to have the program plans reviewed by people outside the design team, key stakeholders who bring differing perspectives to the design work and help ensure its applicability across organizational boundaries.

Pilot offerings of the program also test the program's usefulness to learners, all the more so to the extent that pilot participants are a representative sample of the program's target audience. Program costs, for both design and rollout, make up an important issue the design team must deal with. The question of internal vs. external program development involves cost, but the decision to use one or the other involves also such issues such as credibility, time, skill, and task status.

Evaluation in the design phase of the training cycle focuses (a) on whether and how well the planned learning outcomes have been achieved and (b) on the extent to which the program materials reflect sound instructional practice and the principles of adult learning. The final product of the design effort for a program of live instruction is a Leader's Guide, a formidable but essential element of designing a program for delivery by people outside the design team.

Questions

1. Why can the design process discussed in this chapter be characterized as one of progressive narrowing?

2. Read the short case study, The Imago 1024. Answer the following questions with regard to the case. What training programs do you think the Eidekon Corporation will need to create in this case? Answer in terms of modules.

3. Explain the meaning of cognitive skills and behavioral skills. What are three

key differences between them as training outcomes? Which type of skills do you think is easier to train for? Why?

4. What are some of the advantages of having the design of training programs reviewed by people outside the design team? Who are some of the typical stakeholders in an organization concerning training programs? Who are the sponsors?

5. What kinds of costs must a training design team consider? What are some of the key factors that go into these costs?

Applications

1. A blank copy of the design worksheet in Figure 6-4 in this chapter is found on a page at the end of this chapter. Use all the columns in this blank copy to:

    a. Plan program activities that will deliver the learning objectives for Program Goal #2 listed in the example of design Section One of this chapter.

    OR

    b. Plan the program activities for one of the training programs required in the Eidikon Corporation according to the case study that conclude this section on the Imago 1024.

    OR

    c. Plan the activities for a real-life training program at your place of work.

2. Repeat Application #1a or #1b in teams of 4–5 classmates, all working together.

3. Prepare whatever notes you would need to give your classmates a 4-minute lecture about any topic you choose—your favorite sport or time of year, the best vacation you've ever taken, the best/worst teacher you ever had in school, etc. Do not *give* the talk; just prepare it. Then create a Leader's Guide for the

talk you have just prepared—whatever notes and materials you think some one else would need in order to present your exact same 4-minute talk. Test your Leader's Guide: pair up with a classmate, give your partner your Leader's Guide, and see if s/he can in fact give your talk from your Leader's Guide. Report the results of this exercise to the class.

4. Contact a working trainer in an organization and explore that organization's use of Leader's Guides. Discuss how they are produced and how they are used; ask to see a sample.

5. Contact a training vendor that certifies instructors in its programs and explore the materials used for certification. Explore with the vendor how important it is for them to manage (control?) what instructors do in a classroom with their material. What kind of programs might call for the same kind of management/control of instruction inside a company?

The Imago 1024—A Case Study

The Eidekon Corporation manufactures and sells desktop copying equipment to the business marketplace and is about to bring a new model copier, the Imago 1024, to market. Eidekon's product development department notified internal training of the imminent release of the new copier, and the training people at once undertook a needs analysis among the company's sales representatives concerning the 1024. While the new model is not totally dissimilar to other models in the company line, there is a clear need on the part of the sales reps to learn the 1024 thoroughly. Consultation with sales management and the product development staff (two kinds of relevant subject-matter experts here) has made it clear that the sales reps need detailed knowledge of the functions, features, and benefits of this new product. They must be able to (a) identify customer need for the 1024 and explain its features and benefits verbally as solutions to identified needs, (b) put together a presentation of the family of products into which the 1024 fits, an important contextual consideration for customers and an important step in differentiating it from other Eidekon models, and (c) demo the product completely and flawlessly. Finally, because Eidekon is a small company and has a tradition of its sales people providing customers with after-sales support, the sales reps must also be able to install the 1024, educate customer personnel in its operation, troubleshoot problems after installation, and make sure customers know how to acquire and deal with the consumable supplies the 1024 requires—toner, ink, paper, etc.

Needs analysis data have also surfaced learning needs on the part of the supervisory staff in the sales department, the managers of the sales reps. These

managers need a functional overview of the 1024—not the detailed knowledge necessary to operate and trouble-shoot, but sufficient knowledge to allow them to discuss the copier intelligently with potential customers and guide/manage their sales representatives in marketing it.

*PROGRAM NAME:*_____ *WORKSHEET DATE:*_____

*MODULE #*_____ *MODULE NAME:*_____

*PROGRAM GOAL#*_____: *(statement of goal, cognitive or behavioral)*_____

LEARNING OBJECTIVE	*ACTIVITY*	*TIMING*	*MATERIALS, COSTS*	*WHO*
1				
2				
3				
4				
5				
6				
N				
TOTALS	Total time estimated for this module →	Hrs/mins	Total cost estimate: $	

Figure 6-4 A training design worksheet

Additional Readings

Romiszowski, A. J. *Designing Instructional Systems: Decision Making in Course Planning and Curriculum Design.* New York: Nichols Pub. Co., 1981, 415 pp.

This classic book describes the major areas of decision making that face the instructional designer. Romiszowksi describes the design process as a heuristic, dynamic problem-solving process.

Rowland, Gordon, "Designing and Instructional Design." *Educational Technology Research and Development,* Vol 41., No. 1, 1993, pp. 79-91.

In this article, Gordon Rowland, a professor of corporate communication, discusses the problems inherent in describing the instructional design process. Of special interest to readers is his comparison of instructional design with other design efforts, such as music and architecture.

Silberman, Mel. *Active Training: A Handbook of Techniques, Design, Case Examples, and Tips.* San Diego: University Associates, 1990, 284 pp.

Case examples make this book a useful resource for instructional designers. Emphasis is on why trainers make specific design choices.

Part Four

Training Delivery

9/20

Prologue to Part IV

There are two fundamental approaches to the delivery of training: (1) *live instruction*, which means that the instruction is delivered by an instructor face to face with one or more students; and (2) *mediated instruction*, which means that the instruction is delivered through some medium instead of a live instructor.

We are all familiar with live instruction from our own experience in school: twelve or more years of teachers in front of the classrooms in which we sat, providing instruction in the material we were to learn. Live instruction is an ancient tradition. Aristotle employed it as he strolled with his students around the *stoa** during the Golden Age of Athens. Indeed, it was used by the first person in human history who realized he or she knew something another needed to learn.

Mediated instruction is also very old, almost as old as live instruction: the live instructor is not present, but has left something behind from which the student is to learn. The oldest form of this "something left behind" was perhaps a clay tablet with cuneiform script, or maybe a carved tree. It may have been a cave wall with petroglyphs or a simple piece of bark or leather with pictures. Mediated instruction means that there is some medium for carrying and delivering instruction from a teacher who is not present. The number and types of media have expanded dramatically over the centuries. Today, the absent teacher's instruction can be presented to the student(s) by means of video, through a computer's software, by programmed instruction, by a simple information manual, or through a Walkman's audio cassette or compact disk. The varieties and possibilities of mediation are many and growing, limited only by the creativity and resources of instructional designers. Mediated instruction is sometimes referred to as *self-study* or *self-paced instruction*. It will be discussed in Chapter 8. Live instruction will be treated here, in Chapter 7.

Each of the two fundamental approaches to instruction has advantages and disadvantages. The live instructor can adjust material and method on the fly, in real

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* *Stoa* is the Greek word for "porches," the colonnades Aristotle and the other *peripatetic* (Greek for "walking around") philosophers used as their classrooms.

mediated- medium - media

time, adapting to need in ways that no pre-programmed medium can possibly match. A live instructor can also be prepared to deliver instruction far more swiftly and less expensively than the time and costs associated with developing instruction on media. Mediated instruction, on the other hand, offers an absolute consistency of content that live teachers cannot equal, no matter how thoroughly trained. Moreover, media can be shipped around the world much more easily and cheaply than human teachers can travel. Neither of the fundamental approaches to instruction can be said to be better than the other in any absolute sense. There are, however, circumstances and requirements which seem to call for one or the other approach, as the examples in Figure P4-I show.

Figure P4-I shows that decisions concerning methods of instructional delivery are highly situational. The training professional must be aware of his/her personal preferences and beliefs, and appropriately wary of them. One trainer may favor live instruction, while another may be biased towards a multi-media software approach. These personal preferences, however, cannot be allowed to become the trainer's guiding principles. The overriding decision criterion in the area of choosing the best delivery method is participant learning. *Instruction, live or mediated, is all about learning.* If participant learning does not take place, the most elegantly designed, most sophisticated instruction in the world is simply useless. This learner-focused thinking must go into the design stages of training as well as into its implementation. Design decisions about delivery options must ultimately be governed by the target audience—their learning styles, their needs, and their preferences. Cost, geographic spread, type of content, urgency of need, audience level, and other factors are all part of the decision affecting the "best" instructional approach. The ultimate determinant, however, is the answer to the question: *what will help the target population learn the most, the best, and the easiest?*

Trainers must above all be careful not to make delivery methods into screening devices. If an organization insists that all its training be done by method *x*, then only those who do well with that method will be successful learners. The organization will thus be screening out all others without even having made a conscious decision to do so. This is a classic case of unexamined assumptions driving outcomes, and it is often what takes place when design and delivery decisions are left solely to factors such as cost, at the expense of learner need and preference.

Matching Goals to Instructional Delivery Techniques

Delivery is typically what trainers like to do best, and is thus the component of the training cycle to which they tend to move to too soon. It is an important professional discipline for trainers to ensure that instruction is undertaken only when it is clear that the organizational need—the performance gap—is one that will respond to training. That is to say, the performance gap can be closed by

SITUATION/REQUIREMENT	APPROACH
Need to equip sales personnel with necessary product knowledge for the release of a major new product family two months from now.	Live instruction would appear to be the best choice. Experienced designers/instructors assigned full time can deliver the new program in the time frame available. (The really important question here is: why was the training need left until the last minute in the product development life cycle?)
FASB1098/99 - new accounting regulations will require the controllers in each department in the organization to handle asset calculation and tracking in an involved new way. The new regulations go into effect in 11 months.	Complexity of topic prevents handling by means of a simple informational desk drop (as was done in support of the installation of new phone equipment last year). A majority percent of the controllers are on the corporate LAN, the requirement has almost a year of lead time, and this population has a track record of successful use of self-study approaches—the discipline is there. CBT (computer based training) software running on the LAN will furnish satisfactory instruction in this case. A version of the CBT for stand-alone PCs will provide for those not on the LAN.
A continuing need to orient new hires to the culture of the organization, its vision of the future, its strategies, and geographic circumstances. Hire rate: 130 people per month, in 7 different HR centers around the world.	The training job here is to design something that can be handed off for use in the 7 HR centers as part of their new-hire intake process. The material may well include a videotape of the organization's president talking about the organization's culture and values. An advantage of this is that the tape can be dubbed in all the needed languages; the acculturation demands, however, preclude solely videotape. Live instruction will be necessary, including the involvement of local senior management as guests. Materials will have to include a full scale Leader's Guide for the host facilitator, written to the lowest level of detail, in all the right languages, and thoroughly tested before release.
Incoming clerical staff in the Indianapolis Operations Center consistently need work on basic skills: math, writing, reading, keyboarding, word processing.	Needed programs can be bought off the shelf, both self-study materials and live instruction. No need to re-invent these wheels. A mix of programs will allow the Indianapolis Center to provide employees with the approach that best suits their learning styles and preferences. Self-study modules may also serve as pre-work or reinforcement for live programs where this makes sense.

(continued)

SITUATION/REQUIREMENT	APPROACH
New middle managers need to learn the core job requirements of being the managers of managers, particularly with regard to (a) policy demands concerning performance management, and (b) the value and use of employee attitude surveys.	Some of the need here may be simply informational and can perhaps be met by simple lecture, live or mediated. Learning about performance and appraisal, however, requires hands-on skill practices. Major portions of this learning requirement can be met only by live, interactive instruction, with people working in classroom groups where skills practice and peer/instructor feedback are possible.

Figure P4-1 A sampling of situations and appropriate approaches to delivering instruction

learning: by the acquisition of new skills or knowledge. Once this is clear, the move to designing and delivering instruction makes good organizational and professional sense.

Similarly, most trainers love to teach, and tend to jump to conclusions about live instruction being the delivery method of choice. This natural, preferential leap is to be respected for the power and motivation it supplies to the work of teaching. Once again, however, professional discipline requires that the trainer look long and hard at the organizational situation to determine the best form of instruction. That "best form of instruction" is the one that will enable the target audience to learn the required content, and do so as efficiently as possible.

While no absolutes exist here, the voice of experience says that most people tend to prefer the traditional classroom as a learning vehicle because it is the approach we are all most familiar with. Most of us seem to respond better to the motivation, discipline and lock-step, inertial momentum of a classroom full of peers with a live teacher and a clear agenda driven by that teacher. Most of us do not seem to learn as well if left completely to our own devices in a self-study situation. The point is that if *learning* is the purpose of training (as it is), then decisions about how to provide instruction are decisions about how to help real people learn what they need to know. Instructional decisions cannot be left totally to trainer preference or the cost of different types of instructional delivery. Such decisions must be driven by the understanding that instruction is not a goal but a means and is totally in the service of something else—namely, participant learning.

A Genuinely New Form Of Delivery?

As new types of self-instructional media have been introduced in the modern business world, they have invariably been surrounded by a repeated cluster of vendor promises. This new medium, the ads promise, will provide consistency of

content delivery, enable learners to move at their own pace, obviate the need for live instructors, and above all lower costs. The ads trumpet that the new medium will *finally* break the ancient mold of training (meaning live teacher + student) and *finally* move your training into the twentieth (or twenty-first) century. These same sorts of claims were made for training broadcast by radio, then for programmed instruction, then for televised teaching, then videotapes, then CBT, then interactive video, then distance learning. Indeed, the original laptops were, of all things, *slate*. It was a powerful educational innovation in the eighteenth century that educators gave class participants their own small, personal-sized slates so they could write, calculate, and draw right at their seats along with the teacher at the classroom's large slate blackboard. And some of the same things that are said now about the educational possibilities of portable laptop computers were said then about those individual laptop slates!

Interactive multi-media systems is currently the hot form of mediated instruction. This form of *computer-based-training (CBT)* is increasingly popular because computer workstations are powerful enough to provide not only text *or* graphics *or* video, but can provide them all simultaneously and in an integrated way. The workstations can provide text, graphics, animation, *and* full-motion video on their screens all at once, in multiple windows, with sound capability (including voice input and output), and with artificially intelligent software that can support both the presentation of content and learning activities. Moreover, such potent workstations are increasingly being linked in networks of enormously rich capabilities due to the reach, capacity, and speed of satellites and fiber optics.

It is not clear that multi-media instruction is indeed something new on the face of the earth. It is clear, however, that it offers potential beyond the other means of self-instruction. As we shall see in Chapter 8, it is critical to surround mediated instruction with support systems that make it an effective tool for learning. These include attractive up-to-date materials, learning exercises that motivate and coach the learner, questions that require the learner to reflect on what he or she has learned, and strategies to ensure follow-up from training professionals and managers. Such support mechanisms add substantially to the cost of self-instructional media and are generally necessary to be effective for learning. The power of multi-media appears to reduce the need for such support systems since it can build them right into the instructional software. This is a capability that other forms of mediated instruction tried for and often claimed, but were never really able to deliver.

Furthermore, the power and speed of today's networked workstations provide the capacity for a kind of *performance support* also not heretofore possible. Remember, *learning*, which is the goal of training, is itself a means to the goal of *performance*. The digital networks of today and tomorrow can offer just-in-time support, including on-line reference material at the worker's fingertips. This

information can be kept current with relative ease because new policy or product information can be entered into a centrally maintained database which all the nodes on the network access. These reference tools will actually *reduce* the need for learning. Think about how the alphabet reduced the need to memorize the tribe's stories and epics, because now they could be written down, read, and referenced when desired. The hand-held calculator has made memorizing the times table less a requirement than before. Similarly, multi-media workstations tapping into the information superhighway may make it less necessary to learn some of what has to be learned today. What will be critical will be to know how to access these reference tools that reduce the need to learn, just as library research skills were crucial for the paper-intensive knowledge worker of yesteryear.

The Challenge Of Instruction

Teaching others, whether done live or with mediated tools, has a certain inherent challenge which cannot be removed by any instructional stratagem, no matter how clever or leading edge. The essential task is to get information or skill from the head of someone who knows into the head of someone who needs to know. This process of information transfer must work its way through the filters on both sides of the person-to-person communication, and then must work back through those same filters to ensure that the message was received, and received as intended. This alone makes teaching a daunting task. In addition, the outcome of instruction—learning—means change in the learner, and change is never easy. Resistance to change can be lessened by good instructional design, by strong motivational techniques, and by the clever use of technology. It cannot, however, be completely done away with.

Most importantly, for instruction to be successful, the learning mind must choose to take in and absorb what the instructing mind has presented. This interaction, which defines instructional success, cannot be forced or made to happen, let alone made automatic or effortless or self-sustaining. Chapter 7, *Training Delivery: Live Instruction,* and Chapter 8, *Training Delivery: Mediated Instruction,* describe strategies and proven approaches that trainers can use to help people learn. Choosing appropriate instructional methods is a very important part of training responsibility and a very important skill set for training professionals, but the trainer should have no expectation that teaching method can eliminate instruction's dependence on learner preference and choice.

Chapter Seven

Training Delivery: Live Instruction

Highlights

- Reflections about teachers who have "made a difference"
- Descriptions of teaching methods for instructing large groups
- Descriptions of small group teaching methods
- Perspectives on distance learning, including what it is and when to use it
- Guidelines for developing instructional materials and aids
- Perspectives on the management of teaching

The Teacher in a Classroom

A teacher in a classroom with a group of students is what most of us tend to think about when we think of instruction. Teachers with students are a part of human history, a constant in our universal collective consciousness. From the *sen-set* in snowbound Himalayan monasteries, to the *griots* of story-telling cultures, to the academies of ancient Greece and Rome, to the books and movies of our own

time, the teacher who makes a difference in our lives is a stock character. The movie list includes Robert Donat in *Goodbye Mr. Chips,* Glen Ford in *Blackboard Jungle,* Sandy Duncan in *Up the Down Staircase,* Sidney Poitier in *To Sir With Love,* John Voigt in *The Water Is Wide,* and Robin Williams in *The Dead Poets' Society.* Even more importantly, this stock fictional character is a reality in many of our own individual lives; for many of us there indeed has been a teacher who has made a difference. Memorable or forgettable, help or hindrance, a teacher is the chief means of instruction most of us encounter from kindergarten through graduate school, and live instruction is still the most frequently used form of instruction in the world of organizational training today.

This chapter describes a wide range of live instructional methods and how to use them. In the first two sections, methods are classified as to whether a class of program participants is dealt with as a whole or is broken down into small teams. The third section examines distance-learning options—the technologies and teaching techniques that support live instruction, but where instructor and learners are not physically in the same place. In addition, instructional materials and aids are described, and pointers for their effective use are offered. Of special interest in this section are directions for designing and using the Leader's Guide, which is a detailed teaching aid that helps to ensure consistency of content and delivery when the same program is taught by a number of different instructors. The chapter concludes with suggestions for managing live instruction.

Whole-Group Methods

On many occasions in a training program, an instructor works with the program participants as a whole. The methods for doing so involve fundamentally *lectures* and *discovery learning techniques.* For a given learning goal, these two strategies can be used individually or in concert.

The Lecture Method

Traditionally, the lecture has been the primary method of instruction, and is a part of almost every classroom situation. A lecture is an efficient way to present information to large groups, and it leverages the expertise of the teacher so others can share in it. Like every teaching method, however, it fits some situations, not all.

Some educators argue that the lecture should be used very sparingly. "If You Must Lecture . . ." is the title of Julius Eitington's chapter on the lecture method, and he is not enthusiastic about its use. "Problem laden," he calls the lecture,[1] and he is not alone in this assessment. Lectures enable instructors to be in control and to feel that they have accomplished what they planned for that class. A lecture can be extremely effective if not overdone in terms of length. However, the lecture

method remains primarily *instructor-centered*, not learner-centered, and one certainty that has emerged from research and experience with adult learning is that long stretches of uninterrupted instructor talk, with nothing else going on, is usually a recipe for poor learning.

Lecture as the Method of Choice

Given these cautionary remarks, there are many situations where a lecture, a presentation by a knowledgeable instructor, is clearly the delivery method of choice. A lecture is particularly useful when the learning goal is informational. Lectures are efficient ways to present information about a topic that the training participants need to hear, see, and have the opportunity to ask questions about. Many such situations exist, ranging from the announcement that the organization is opening a new branch office in Milan to describing a policy for the organization's new tuition reimbursement program.

Also appropriate for lectures are those points in a training program where something needs to be explained more fully. In a workshop on writing skills, for example, a short lecture on how to avoid using sexist language might be appropriate. Sometimes, a procedure to be followed in the next portion of the training program itself needs to be fully explained:

> *Your group will be responsible for developing a list of activities that would be appropriate to solve the case. Keep in mind that teamwork is vital to your success here, so use the nominal group technique to ensure that everyone's ideas are included. To use the nominal group technique, you'll first . . .*

Such *lecturettes*, brief presentations which tend to run 10–15 minutes, provide information that other program activities process, reinforce, exemplify, and expand upon. While activities—a case or role play, for example, are where most of the content learning takes place, the importance of properly setting up the activity cannot be overestimated. The most clever, best designed exercise will stumble if its participants do not understand what they are to do. The lecturette that introduces and explains the activity is crucial to this understanding, and thus—even though short—a critical instructional responsibility.

Using the Lecture Method Effectively

An important aspect of lecturing is encouraging and handling questions from the audience. Questions should be anticipated and welcomed. A lecture should not be a situation in which the speaker is active and the audience passive. Active participation from the listeners is a way of clarifying and expanding on points the speaker has made, as well as a way of enabling the audience to tap into its own knowledge and experiences. The smart lecturer handles questions well. Questions that are received gratefully can be an occasion for wider learning; questions that are put down say that the speaker's point of view is the only one that

counts. Questions—and the responses to them—early in a training program will set the tone for the rest of the instruction. That tone should be one of shared inquiry and curiosity and a penalty-free opportunity to learn from mistakes. An instructor must always be aware that the way a question is handled is as important as the answer; it is a message that will be heard and heeded by the questioner as well as by all who are listening. Experienced lecturers suggest these practical techniques for handling audience questions:[2]

- Listen to the student; be sure you understand the question.
- Maintain eye contact; wait a second or two before you respond to be sure that the student has stopped speaking.
- Vary your reactions; you can:

  rephrase the question in your own words

  ask for clarification, expansion, or examples

  expand on what the participant has said

  acknowledge the contribution, but ask for another view

  nod or look interested, but remain silent.

Whatever its length or purpose, a lecture should engage its audience as much as possible. This means putting variety and vitality into the oral presentation, which can be done by the effective use of tone and volume, pitch and pace, phrasing and repetition. Pausing frequently for questions, having participants write summaries, create lists, break for small group work, or stage a debate also helps to engage learners. A lecturer in a classroom should also present information visually as well as through words. Flipcharts, overhead transparencies, and computer-generated presentations are common forms of visual aids, and are discussed later in this chapter. For the most part, such tools are readily available, inexpensive, straightforward, and capable of adding an important dimension to a verbal presentation. The lecturer's goal is to get the ideas into the audience's heads, rather than simply present prepared materials. This goal puts a premium on making the presentation attractive and memorable. It puts a further premium on considerations of length. A wise, seasoned speech teacher once put it this way:

> *When you think about the length of your speech, plan to leave them hungry. You don't want them to stop listening before you stop talking. Above all, you want them wishing you hadn't stopped rather than wishing you would!*[3]

Discovery Methods

Another approach to dealing with a class of students as a whole is *discovery methods*. The name highlights the key to this instructional tactic. Its goal is to lead the participants to find things out for themselves, or self-*discover* the content they are to learn. Note that the concept of discovery is consistent with adult learning theory, as through the use of questions, cases, and other activities, the instructor draws on the knowledge and experience of the participants, relying on their judgment and involving them not merely as recipients of learning but also as generators of it. However, discovery methods have the disadvantage of taking longer to get to the point than does a straight lecture. Moreover, discovery works well only when the participants have reasonable levels of knowledge and experience to draw upon. After a brief overview of three sample variations of discovery methods—the Socratic method, the case study, and the informational treasure hunt—suggestions for their effective use are offered.

The Socratic Method

Socrates, a philosopher/teacher in ancient Greece, made a practice of presenting information to his students—not by telling them what he wanted them to hear, but by asking them questions. The process drew from them collectively the points they were to learn, an approach that came to be called the *Socratic method*. Genuine discussions, however, are different from the Socratic method, where the instructor's goal is to lead students to a particular answer through an established line of reasoning.[4] Because discussions are unstructured, with the inherent loss of control, outcomes are difficult to predict.

The Case Study

The *case study*, common in professional schools and management training, is capable of providing a focused discussion of complex issues. The method involves having participants read a case, a story in which real-world elements and the learning points to be acquired are contained. The reading of the case, often augmented by an assignment to outline the case or prepare written answers to a set of preplanned questions, is processed by a class discussion. It is common for a class of experienced professionals to develop solutions far different from what the instructor expects or has heard before. Another reality about teaching adults is that the instructor usually joins in the learning!

Informational Treasure Hunts

Another form of discovery method is an informational treasure hunt. Participants are asked to make decisions about a carefully chosen situation by first finding relevant information in, for example, the organization's personnel policy guide or code of ethics. Participants then discuss solutions and judgments based upon both their own experience and what they discovered in the policy guide or

code. The chief design goal of this kind of exercise is to enable the learners to handle decision situations independently, yet stay in line with organizational policy.

Using Discovery Methods Effectively

Discovery methods can be put to good use by the astute and skilled trainer as a productive and engaging alternative or complement to a straight lecture. The instructor who uses the discovery method must prepare very thoroughly in advance, by first developing good cases and/or questions. Some questions elicit the material of the case, to make sure the salient facts are understood by all. Other questions ask for conclusions, decisions, or recommendations. The questions, of course, cover the real learning points that the session is constructed to deliver. C. Roland Christensen, a professor emeritus at Harvard University and a proponent of the use of case studies, suggests that instructors develop a typology or inventory of questions to help lead class discussions. Figure 7-1 shows such a typology of questions adapted from his work, which may be useful in many situations.[5]

The discussion leader should obviously know the target audience well. Discussion sessions are typically driven by the instructor, who should ensure that all learners participate over time. The instructor plans around whatever is known about particular individuals—those who never volunteer, for example, or those who tend to dominate discussions. Choosing how to address the first question—to the class as a whole or a specific person—should be planned ahead of time. It is the instructor's responsibility to find a graceful way to ensure that everyone is a part of the discussion.

Small-Group Methods

An important part of training work involves dividing a class of participants into teams of 2–8 people for activities that bring about the desired learning. Small-group methods may be used to encourage dialogue around lecture or case study points or to provide participants with a means to understand their colleagues' viewpoints on topics. As discussed here, small-group methods—discussions, games and simulations, and role plays—can provide strong vehicles for learning.

Small-Group Discussions and Reports

Perhaps the most common small-group activity is a *group discussion* on a topic, followed by the group reporting what it discussed and what it concluded. Reporting is often accomplished by asking each small group to sum up its discussion on a flip chart and nominate a teammate or two to present the chart to the entire class. Other options for small-group reporting depend on time and resources and what will work with the participants and their culture. The options range all across the presentation spectrum:

- ➢ all members of the small group, rather than just a single spokesperson, are part of the team presentation.
- ➢ discussion teams are supplied with video equipment and asked to display their presentations on videotape.
- ➢ the small groups express their findings in a creative way: a playlet, a song, or a drawing.

Question Typology

Open-ended questions:

What was your first reaction to the situation: What key points do you recall?

Diagnostic questions:

Who were the key players in the case? Who had the most to win or lose from the proposed operational changes? What was at the root of the problem?

Information-seeking questions:

What are the organization's procedures and rules for backing up data?

What part of the copyright law addresses how application software can be archived?

Challenge (testing) questions:

What are your reasons for saying that? What led you to this conclusion?

What could your opposition say?

Action questions:

What steps should be taken? What procedures should be followed?

(continued)

Questions on priority and sequence:

Given the organization's goals and resources, what should we do first?

Second? Third?

Prediction question:

If we implement this policy, what might be the outcomes? If nothing is done, which department would be impacted the most? The least?

Hypothetical questions:

What would have been the results if no training had occurred? What would have happened if the training had been outsourced?

Questions of extension:

What implications can you draw from the results of this case? What would be the impact of this occurrence happening in this organization?

Questions of generalization:

Based on your study of video conferencing, what do you consider to be the major forces that support the use of this technology?

Figure 7-1 A typology of questions

Such small-group strategies not only provide variety, but are also excellent ways to tap into the creative, playful dimensions of the program participants. Providing a team of adults with crayons or felt tip markers and asking them to draw a colorful picture of the desired future state of their organization, based upon informational material about that future, breaks through the formality and discipline with which professionals normally operate. While such techniques offer powerful potential, it is extremely important that they not embarrass the participants in any way, and that they be fundamentally acceptable in the culture of the organization. As always, situational fit is a crucial element of successful training.

Games and Simulations

Games are icebreakers or exercises, illustrations, or activities that support learning. Newstrom and Scannel, co-authors of *Games Trainers Play*, explain that

games are typically brief, inexpensive, participative, require the use of props, are low-risk, adaptable, and single-focus.[6] *Simulations,* on the other hand, allow students to engage in activities that are akin to realistic situations. While more conventional methods are best used to achieve cognitive objectives, games and simulations can favorably impact learner motivation and participation.[7]

For example, Figure 7-2, Creativity Exercises, can be used as an icebreaker or make an interesting opener for a training program on creativity. More content-related games such as popular TV shows like "Jeopardy" or "Wheel of Fortune," can be used as models to create learning activities. Other models are well-known board games like "Trivial Pursuit" or "Monopoly." The trainer uses the formats of these popular games, and uses the content of the training program as the game's content. In addition, simulations have been designed specifically for training purposes, such as "The Prisoner's Dilemma," where participants are arrested and charged with a serious crime. This particular simulation introduces learners to plea bargaining and the workings of the criminal justice system.[8] Thick reference binders of ice breakers, games, and exercises are readily available[9] and offer materials suitable for use in or adaptation to a wide variety of program designs.

1. By adding one line, turn the following into a 6.

   IX

2. What is the ordering in the following numbers?

   8, 5, 4, 9, 1, 6, 3, 2

3. What is the next letter in the following sequence?

   OTTFFS

4. What is the pattern that differentiates the following two groups?

   Group 1: A E F H I

   Group 2: B C D G J

(If you are stumped, see footnote 10 at the end of this chapter)

Figure 7-2 Creativity exercise[10]

Using Games and Simulations Effectively

Games tend to have a competitive aspect where one or more teams compete for points, placement, or prizes. Balancing teams may require considering the personalities, skills, and experiences of team members. Simulations, while possibly in a game format, more often tend to be designed to place students in a real world environment and may or may not contain a competitive aspect. Games and simulations can be expensive to develop, and typically take several hours or more to run. Essential to their effectiveness is building in time for group discussion about key learning points.

Role Plays

We know that skills are not developed by listening to lectures; it is imperative that a learner have the chance to practice, to try his or her hand at the prescribed methods, and get feedback on how well he or she did. The acquisition of skills, whether they are keyboarding skills or interpersonal communications skills, requires practice, practice, practice—the chance to make mistakes in a safe, penalty-free, environment. The amount of practice required will vary from topic to topic and from individual to individual, but practice is always necessary.

Role plays are excellent ways to have trainees practice skills they are learning in a program. *Role playing* typically takes the form of two or more program participants enacting various roles while the instructor and/or other program participants observe and offer feedback when the role play concludes. In fact, role plays are sometimes referred to as skill practices. For example, supervisory personnel who need to learn how to do staff performance appraisals might use role playing to practice exactly what they will be doing later. In exercises where one trainee plays the supervisor and another the staff person, role plays provide an opportunity to see what might happen when the skill is actually put to use. In this example, the point of the role play would be to see how the learner—the supervisor—handles situations where he or she is expected to work with a staff member to settle on mutually agreeable goals or to provide coaching for skill improvement. Other role plays might entail practicing techniques that help supervisors describe what they have observed in behavioral, nonjudgmental terms, which are calculated *not* to stir up defensive reactions.

Using Role Plays Effectively

Good, useful feedback concerning role plays is important, and trainees themselves can be an excellent source of it. Note that *all* participants in the small group sessions are learners, not just the individuals who are performing. Trainees often claim they learn more as observers than as players. However, it is usually necessary to guide participants on what to give feedback on and how to do it. This instruction, and a form that guides the participants in capturing their observations in a common, sequential way, helps structure the role play for maximum results. The

key is to get observers to focus on specifics rather than on generalities, and this often requires participant coaching.

To understand the importance of coaching in peer feedback situations, consider the following responses given by participants about a colleague's performance in a role play:

1. Megan did well as supervisor.
2. Megan set the objectives well with Jonathan.
3. Megan made sure Jonathan understood what he was going to have to do by asking him to repeat the objectives in his own words.

Only the third example provides Megan with specific information on what she did well, the tactics she used, how she involved her performance partner. The first example is of no use at all, other than to make Megan feel good. Likewise, the second response is too general and not very helpful. Megan—and her observers—will learn only if the feedback is specific.

Role plays and other skill practices can be made more intense and more powerful by videotaping them. Videotaping a skill practice allows trainees to see their behaviors for themselves. Videotaping is very influential for most people, as learners can view their actions in private, can be encouraged to redo their performance until they are pleased with the outcomes. Learners are often their own worst critics in such situations.

Other approaches to using role plays include doing the role play in a "fishbowl" style. Here, role players perform in front of classmates who form a circle around them (as in a fishbowl). The group then discusses among themselves how well the target skills were practiced and in so doing provides feedback to the players. When time permits, inviting different participants to perform the role over again is useful.

Distance Learning

Distance learning, sometimes called *telelearning*, is a form of instruction in which:

- learners are dispersed; and/or
- few extremely well-qualified instructors are available to reach a large number of students; and
- teleconferencing systems are available to support communications between trainees and an instructor who are in different locations.

Distance learning works well in those situations where teleconferencing is simply the most educationally sound alternative for instructional delivery. Keep in

mind that no teaching method works unless the learner does.[11] Therefore, the purpose of the following section is to describe alternative categories of teleconferencing technologies and teaching suggestions for using them effectively in learning environments. Four major categories of teleconferencing technologies exist: audio, video, audiographic, and computer. In addition, business television is a specialized form of video conferencing.

Audio Conferencing

Audio Conferencing is voice-only interaction between individuals at two physically separate sites. In its simplest form, audio teleconferencing is direct student-leader interaction via telephone or speakerphone. In a more complex mode, audio conferencing is the telephone interaction of many individuals at any number of sites. Audio conferencing can be used in many different types of learning situations where people need to hear information and have direct communication with the information giver and each other. Examples of its application include informational announcements: new products, new markets, or new operational policies and procedures.

The only hardware needed for an audio conference is an ordinary telephone if the group at the remote sites consists of one or two people at each site. Otherwise, a speaker phone is useful. When multiple sites are involved, "meet-me" bridges are needed to tie the communication links together. In such cases, participants either call into a central service, or the central service calls them at a given time.

Video Conferencing

One-way video conferencing systems allow the instructor to be both heard *and* seen at remote sites, with sites connected to each other and the instructor by a voice-only line. *Two-way* video conferencing systems, on the other hand, allow the instructor to also see the learners. Either form of video conferencing has the potential to closely emulate a traditional classroom because it allows for student-student as well as student-teacher interaction. Marketing departments, for example, find video conferencing a fast, effective way to disseminate new product announcements to a diverse salesforce. Video conferencing has also been used effectively in training programs at manufacturing sites where topics such as quality control can be offered without pulling employees off the job for any length of time.

In some organizations, specially equipped rooms have been created for video conferencing. Such dedicated facilities are designed to account for acoustics, lighting, seating, and technology placement. Increasingly, however, video conferencing is moving to the desktop, a result of compressed digital transmission technology. Small, high-quality desktop systems allow communication directly to and from the

user's individual workstation. Vendors of personal video conferencing systems include Intel (Santa Clara, CA), VTEL Corp (Austin, TX), and GTE Vantage Solutions (Chantilly, VA).

Audiographic Conferencing

Audiographic conferencing joins the technology of the audio teleconference with one of the graphic technologies. The audiographic capability is sometimes slow scan transmission, which involves a camera at the sending and/or receiving end, allowing slide-like pictures of the remote environment or learning materials to be sent electronically. Other audiographic additions include facsimile machines that are used to send graphs, charts, or pictures between sites. Increasingly, the computer itself is being used as a supplement to audio-only transmission, allowing an instructor to share graphs, pictures, or complete computer-generated presentations with individuals and/or groups of remote learners.

Audiographic conferencing has been used by insurance companies where an instructor takes a sales staff step-by-step through new policy offerings or instructs the office staff in new procedures for reporting claims. A picture is worth a thousand words; seeing a picture of those at the other site or illustrations of complex instructional points adds variety and interest—and enhanced learning—to instructional sessions.

Computer Conferencing

In addition to being a support tool, computer communications capabilities can be used as the medium for the instruction itself. *Computer conferencing* is communicating through the dimension of computer technology. Learners use the microcomputer, special communications software and the telephone line to exchange ideas and solutions to problems. A group of international consultants for example, might work this way to share their cases and problems with others in the firm, asking for help and support.

Additionally, group support systems (GSS) or collaborative computing systems can add additional capabilities to remote group communications. With GSS, meeting or classroom environments are created through text and graphics on computer terminals and transmitted from one location to another over a local area network and, when the sites are dispersed, through telephone channels. In GSS-supported sessions, people can share information, brainstorm ideas, develop plans, make decisions, and negotiate. GSS's value to training applications is just beginning to be appreciated and understood. Most GSS systems, such as Ventana Corporation's *GroupSystems*, are based on participant anonymity and simultaneous input. Thus, the use of GSS typically results in greater generation of ideas or comments than in standard, face-to-face meetings; moreover, because participants are actively involved in the group process, they learn by doing.

Business Television

Business television is a medium often used to broadcast informational sessions within an organization. Such presentations may be closed-captioned or dubbed in various languages as needed. Direct satellite broadcast most frequently involves one-way video and two-way audio. Such sessions are designed to be highly interactive and provide opportunities for participants to communicate with both the instructor and other participants.

Using Teleconferencing Effectively

Telelearning has become a very real and viable teaching method. Success stories abound in corporate training situations as well as traditional academic institutions. Based on these experiences, following are suggestions for using teleconferencing effectively with regard to both selecting and presenting the content, as well as for instructor training.

Selecting and Presenting the Content

Distance-learning experiences whereby an instructor merely delivers a lecture by teleconferencing often meet with resistance on the part of the learners. In fact, straight lectures transmitted by video conferencing technologies are known as "talking heads," because in such situations the sending camera typically zooms in on the lecturer who talks or reads from a prepared script. While many such talking heads existed in the early applications of distance learning technologies, these situations are relatively uncommon today. Lecturers know to pause to give audiences opportunities for interaction.

When teleconferencing technologies are applied to delivering learning experiences, two key areas require attention. The first is technical quality. Support technicians usually ensure that visual aids are clear and easy for those at the remote site to read. Technicians will also ensure that the audio transmission is satisfactory, an absolutely crucial requirement as low audio quality, even more than poor video, greatly affects comprehension. The instructor him/herself can quickly learn operation skills such as operating the camera, the facsimile, the computer, and staying within the physical limits of the camera and microphones. Such skills come by hands-on experience with the tools, and practice, practice, practice!

Adapting Teaching Techniques

The second key component of teleconferencing is the adaptation of traditional stand-up-and-deliver techniques to the medium being used. Instructors must be sure to employ a full range of adult-oriented, student-centered activities such as small-group activities and role plays. To keep remote students interested and motivated, the instructor should encourage learner participation by directing

questions to students at remote sites by name and pausing frequently for participant comments or questions. Like learning any technical skills, adapting teaching skills to distance learning applications comes with practice.

An interesting observation by those who have evaluated instructors' use of distance learning technologies is that technology itself does not make a poor instructor good; it will only allow him or her to reach more people. However, technology *can* make a good instructor even better. All good instructors know their target audience and stick to the learning objectives in any environment; however, using the technology effectively requires additional planning in these areas. Such pre-planning on the part of the instructor—whether in the same location or remote—almost always adds up to a good learning experience.

Figure 7-3 lists situations where a variety of live instructional approaches are used, along with their advantages and disadvantages. Selecting the "right" instructional technique requires that the trainer determine how—given the content to be delivered, the audience, and the time frame available—learners can learn in the most effective and efficient way.

Instructional Aids

Instructional aids, sometimes referred to as *audiovisual aids or materials,* are those items that an instructor uses within the class session to help learners understand key points. Pictures, charts, graphics, animation, video—the list goes on and on—can be used to provide structure and add variety in learning situations. Instructional aids needed to deliver a program are typically created at the program design phase of the training cycle (see Figure 1-7). They are tested in the pilot program(s) and then made available for instructor use as part of the program rollout. Their development should be governed by three principles:

- ***Professional quality***—in these days of desktop publishing, powerful microcomputers, presentation software, and sophisticated copiers, there is no excuse for anything less than high quality, perfectly legible materials (18 point type (or the equivalent) on visuals, 4-inch letters on flip charts, a maximum of half a dozen lines on any one visual). While crisp, clean, readable black-and-white visuals are a perfectly adequate minimum, artistic design and color can add interest to the presentation. The "6 x 6" rule (no more than 6 words on a line and six lines on a page) also helps ensure readability.

- ***Timeliness***—if the organization's quarterly financial report is part of the program, it should be the most recent financial report, not a copy of the one used when the program was piloted two years ago. If a videotape of

Approach	Commonly Used in Situations Where	Advantages	Disadvantages
Lecture	the learning goal is informational	instructor can reach large numbers of participants at once	speaker is active; learners are passive; to be effective, must be coupled with other learning strategies—e.g., small-group discussions, games
Lecturette	program activities must be explained or content provided though other means—e.g., a video or small-group exercise—needs to be expanded upon	provides an opportunity for the instructor to set up learning experiences or expand on the content of exercises	speaker is active and participants are passive, unless questions are encouraged
The Socratic method	learners have a reasonable amount of knowledge about the topic already	requires high involvement on the part of the learners	requires much planning on the part of the instructor
Case studies	the learning goal is to teach skills of problem identification and diagnosis	draws on the knowledge and experience of learners	relevant cases are difficult to create; instructor must be flexible and able to take risks
Informational treasure hunts	the goal is to teach people how to find, use, and apply existing information	learners learn how to find information on their own	time consuming and learner motivation is key to successful implementation
Small group discussions	the learning activity is to encourage discussion of topics or problem solving	offers learners a chance to interact with each other	can be taken over by powerful personalities; reluctant participants may still not participate
Games and simulations	the instructional goal is to establish interest in a topic, or serve as an icebreaker	games make learning fun; simulations provide real-life experiences without personal risk	instructions must be carefully considered; may be too time consuming for desired outcomes

(*continued*)

Approach	Commonly Used in Situations Where	Advantages	Disadvantages
Role plays	learners need an opportunity for hands-on practice and immediate feedback	learners are put into specific role and learn appropriate behaviors	can be misused; must be taken seriously; a role play is an act unless its purpose is clear and immediate feedback is given
Distance learning	learners and instructors are geographically dispersed; adequate technology exists to support interaction	learners can access instuction without travel; instructors can reach large numbers of learners	telecommunication technology can be costly; traditional instructional methods must be adapted

Figure 7-3 Advantages and disadvantages of selected live instructional techniques

senior executives discussing ethical issues is part of the program, both the executives and the issues must be reasonably current in the organization (if this means frequent updating of the tape, that may be a signal that video is not the right choice of medium; a slide show with voice-over or printed materials might be more appropriate).

➢ ***Simplicity***—the less complicated your materials are, the less likely there are to be problems with them. This is particularly applicable to those situations in which instructional materials are created in one place, by one trainer or training department, and are then used elsewhere by other trainers or departments.

In addition to pre-planned instructional material, teachers in the classroom often create real-time materials in the classroom, inspired by the need or opportunity of the moment. Examples of spur-of-the-moment materials include flip chart sheets to sum up a particularly incisive case discussion, a blackboard filled with the product of the afternoon's brainstorming session, or an overhead transparency with a scribbled formula that captures an idea not previously considered. These are the results of learning in action and are not at all to be restricted by the criteria set for pre-planned materials.

Six kinds of pre-planned instructional aids, as used by a teacher engaged in live instruction, will be discussed here. The four most common are overhead transparencies, handouts, flip charts, and films. A fifth classroom aid, which is very

powerful and is emerging as a commonly available tool, is presentation software. The final instructional aid, in a class all by itself, is the *Leader's Guide.*

Overhead Transparencies and Projector

Simple to create, highly portable, readily adaptable to changes, inexpensive, and easily turned into handouts, *overhead transparencies* are a staple of live instruction. Overhead transparencies can be mounted on frames or have a cloth strip along one side, either surface capable of bearing penciled speaking notes for the instructor using them. Transparencies can come in colors. They can be masked, and the mask removed one step at a time for a reveal technique or for the gradual build-up of a concept. Given the right kind of wall, overheads do not need a screen, nor do they require dimmed lights. Transparencies can be created by word-processing or presentation software or by hand with a grease pencil or marking pen.

The transparency itself is placed on the projector, where a light source is focused through the transparency, and bounced back 90 degrees to a wall, screen, or other flat surface. The projected, enlarged result allows the presenter to face the audience and maintain eye contact as the audience attends to the image. Using two overhead projectors at once permits an instructor to put an overview up as one visual, then explode the components of the overview in a second image, one component at a time. Skilled use of an overhead projector keeps an audience focused on key points and helps maintain interest.

The use of an overhead projector is an important training skill to develop, and the projector itself deserves attention as well as the transparencies. Many projectors are equipped with a second bulb, so if the first bulb goes out in mid-presentation, the show can go on with the flip of a lever. Simple as it is, the overhead projector nonetheless exemplifies the first law of audiovisual equipment: take nothing for granted, and always kick the tires—check, check again, and then re-check. Be sure equipment is operable and that whatever backup is provided is also in working order. Make sure that an extra bulb is available and that you know how to install it. Aim the projector so that the visuals are properly focused and visible from every seat in the room before the session begins. Also, be sure that the projector's electrical cord is taped down so no one will trip over it.

Perhaps the most important thing to keep in mind when using overheads (the term "overhead" is used by trainers to refer both to the transparencies and the projector) is to face the audience and point in shadow at the image on the projector's glass rather than directly at the image on the screen. It is very easy to forget this simple rule and get caught up in looking at the wall/screen along with the audience, gesturing and talking to it rather than to the audience. Also remember to turn the projector off when you remove one transparency and do not immediately replace it with another. A projector with no visual on it all throws a blindingly brilliant light that can easily be a major distraction.

Slides

Slides are generally 35-mm color transparencies and are much less common in day-to-day training situations than are overheads, though they are often used for large scale informational sessions, as they can provide stunningly colorful images. Unlike overheads, slides are not flexible: once loaded into a projector's tray or carousel, they cannot be easily changed or resequenced. They cannot be written on, are relatively expensive to make, and require a darkened room for full effect. The impact of slides, however, is very effective when a planned, formal presentation is required.

Slide projectors are somewhat more complicated than an overhead and thus require even more careful checking and backup. If you are going to use a slide projector, be sure to test it thoroughly beforehand (both its mechanics and its projection). Insist on a remote control device to change the slides so you are not tied to a podium, and use the projector primarily for informational sessions and prepared speeches.

Handouts

The most basic form of instructional aid is the *handout*, papers or materials distributed in a class session that capture or summarize the information being conveyed by the instructor. Handouts provide the learners with memory assistance, space for note taking during instruction, and reference material for using the instructional content later. While the handout may be basic, it is an extremely useful tool for learners. Instructors frequently provide program participants with a copy of the visuals used in the instruction as a handout, often condensing a dozen illustrations on a single page. This tactic gives the learners perfect material on which to take notes and jot down questions. An alternative is a summary outline of the instructional content, which provides the same information as the visuals without the necessity of duplicating them. Presentation software, discussed later in this section, makes creating handouts with exact, high-quality miniatures of the visuals quite easy. Handouts ensure that the participants have the information in a useful form that is helpful to them. It is, of course, critical that the handout material be of first-class quality.

Flip charts

Flip charts are pads of approximately 22″ x 42″ paper fastened together at the top and (usually) mounted on an easel or a wall unit. Flip charts are another common instructional aid. They can be used for both presenting and recording ideas, are inexpensive, travel easily when rolled up in a tube, can include color and graphics, and offer great flexibility in use. Flip charts created in advance ("flips," working trainers call them) carry information such as the agenda(s) for the modules or days of the program, summaries of program content, logistics, directions for program activities, and the like. Moreover, they can be created in advance. Note that it

is not necessary to prepare a flip chart *pad* in advance, just the individual pages. These pages can then be organized and taped onto a pad wherever and whenever needed.

Flip chart pages can be produced by specialized copying equipment. The original visual is drawn or desktop-published on an ordinary sheet of 8 1/2″ x 11″ paper, which is then fed into a special copier to produce a flip chart-sized version. It is also possible to lightly laminate flip chart sheets so they will wear longer and can be drawn on, erased, and then re-used. In addition to these pre-written charts, flip charts are also often created in the classroom in real time, either by plan or spontaneously drawn by the instructor as an aid to expressing certain points in the program, displaying content, or capturing ideas from participants. Similarly, program participants often use flip charts for the same kinds of purposes. Figure 7-4 includes guidelines for their effective use.

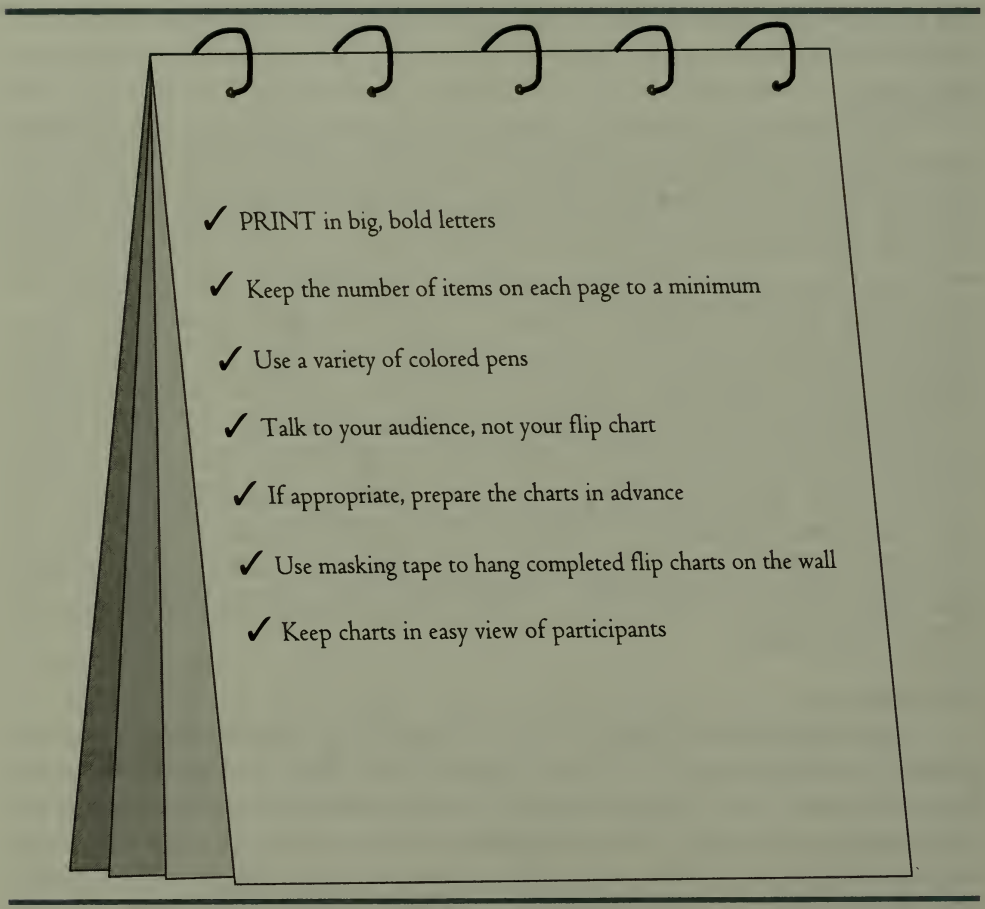
✓ PRINT in big, bold letters
✓ Keep the number of items on each page to a minimum
✓ Use a variety of colored pens
✓ Talk to your audience, not your flip chart
✓ If appropriate, prepare the charts in advance
✓ Use masking tape to hang completed flip charts on the wall
✓ Keep charts in easy view of participants

Figure 7-4 Tips for effective flip chart use

Videotapes

The training film is an idea that has been around a long time, but the availability of videotape, the camcorder and the videocassette recorder/player (VCR) have revitalized the use of film in training contexts. Whether shown on television sets via a VCR, or shown via large screen projectors, video is a powerful way to present information. A tape of a senior executive talking about a new policy gives a certain panache to the material that the trainer cannot usually equal. A professionally produced video of the features and benefits of a new product is a high quality way to introduce this information, again with a gloss and graphic excellence that a trainer's live presentation usually cannot match. In addition to its use for the presentation of information, another important use of video is to model behavior. A demonstration of the proper way to communicate or interact with staff or to give a speech, especially when followed by skills practice, has a marked impact on the learning of target skills. "Show me" has always been the cry of students faced with a need to learn a specific skill. Video has raised the level of showing-by-pictures to a whole new dimension of possibility and power. Entire libraries of training material on videotape are available on the open market. Because videotape is also used in mediated instructional situations, a more thorough discussion of using videotapes is discussed in Chapter 8.

Presentation Software

Software packages (Harvard Graphics, PowerPoint, Freelance, ACTION!, and MacPaint are examples) can be used to produce high quality color graphs and charts for overheads, slides, handouts, flip charts, or for direct viewing from the computer. Work can be easily stored and modified. Presentation software is used in one of several ways. The user:

- draws directly on the screen with a hand-held device, such as a mouse or joystick, or by selecting from among a range of drawing tools provided by the package;
- draws or traces an image on a special tablet (a digitizer), which transfers the image to the screen;
- issues commands, such as "draw pie," "label," and "plot," that are translated into computer graphics (e.g., Tell-A-Graf, SAS/Graph);
- issues commands that transfer clip art into applications packages;
- issues commands that convert data into a graph, chart, map, or other image using a software package (e.g., Lotus 1-2-3, Excel); or
- scans an image into the computer and then manipulates it.

The use of presentation software is expected to increase in the future as trainers become more experienced in its possibilities and as devices for displaying computer-generated charts and graphics become more common. The ease of adapting presentations, as well as their high quality output, make the technology a good match for effective training applications.

The Leader's Guide

The main resource for the instructor in preparing and teaching a program is the *Leader's Guide* (see the discussion in Chapter 6). The Leader's Guide lays out the entire program, module by module, so an instructor knows what to say and what to do throughout. Formats vary, but a good Leader's Guide provides an overview of the program as a whole, explains its overall objectives with its components and modules, and states clearly how they all fit together. The Leader's Guide will include the following:

- the objectives and learning points of each component, so the instructor knows why the component is part of the program and what its results are to be;
- the "talking points" for everything the instructor is to say—something less than a script but more than a mere content outline. The Leader's Guide is a teaching outline that tells the instructor what needs to be said or done about each learning point, and sometimes even how to say it, at every major juncture of the program. It is not a script to be memorized, but it does make each and every point the organization and the training designers want made in the program;
- a copy of all participant materials;
- an explanation of each activity in the program at the point where it is to be used—what the purpose of each is and how it is to be done, together with copies of all materials necessary for the exercise: flip charts, other visuals, game or discussion materials, handouts, role play directions, feedback forms, and the like;
- a copy of all visuals to be used in the program—overhead transparencies, flip chart pages, wall charts, etc.—all in Leader's Guide binder size for ease of packaging and transport;
- a suggested time schedule for each component of the program—in approximately 15 minute segments, and aggregation of the components into larger units as useful; and
- a transition into/from the next/previous component(s) of the program.

The Leader's Guide is typically a three-ring binder with tabs for each component or day of the program, and tabs for the handouts, flip charts, overhead transparencies, and any other program material the instructor should have. The purpose of the Leader's Guide is to provide the instructor with everything needed to deliver the program in a quality fashion with the required degree of consistency. Most instructors will make some form of teaching notes for themselves—file cards they can tuck into their shirt pockets, post-it notes gummed to the pages of the Leader's Guide, pieces of paper with summary notes, but these all begin with the Leader's Guide itself. Another way to sum up the role and scope of a Leader's Guide is this:

> *Observing an offering of the program with the Leader's Guide available for note taking should provide all that an experienced instructor needs in order to teach the program, given adequate time for personal preparation.*

The Leader's Guide should not be viewed as a strait jacket but as a help. It tells the instructor what the program sponsors want said and done, and states how to achieve what the program is to deliver. It should therefore be followed. At the same time, the Leader's Guide is a tool with a purpose, not an end in itself. If some part of it no longer works, the instructor on his/her feet in front of a class will discover this and should feed the information back to the Leader's Guide's developer for possible modification. Deviating from the Leader's Guide should be neither common nor capricious but it should not be considered impossible. A great deal is typically left to the instructor's discretion. Nevertheless an instructor must also remember that he or she is the deliverer of the program, not its designer or its re-designer. Figure 7-5 shows two pages from the Leader's Guide of an actual management development program, *Managing at Chase*, at Chase Manhattan Bank.

A final note regarding the instructional aids discussed concerns the purchase of a packaged training program for use in live instruction. Such a purchase should include a complete set of appropriate aids. It is certainly not essential that every program include video, powerful as the medium may be. However, overheads, flip charts, and handouts—or a master copy of them to be used for their production—should be an expected part of any program package designed for live delivery. Most important of all, the package should include a detailed Leader's Guide. Because the development of a Leader's Guide is a complex, demanding, and detail-intensive task, it is often the case that the seller of a packaged program offers considerably less than a full-scale Leader's Guide. The purchase of the program may of course still be made, but the purchaser should be aware of what is *not* included in the package. The omission of a Leader's Guide may well have an impact on price, or on selection itself if one is choosing

among two or more competing packages. Happily, the trainer is often faced with the situation in which a vendor not only provides a Leader's Guide, but also offers reasonable train-the-trainer support to certify instructors for the program under consideration.

The following two pages are taken form the Leader's Guide for Managing at Chase, a one-day orientation to management responsibility at Chase Manhattan Bank. The two pages guide an instructor in setting up a team activity in the program. The pages do not follow each other in the actual Leader's Guide, and the contents have been shortened a bit for the sake of practicality.

Segment 4.2	Instructor Presentation: Managerial Tools and Resources
Purpose:	• To introduce a variety of tools and resources available to the Chase manager in managing human-resources-related issues. • To give participants the opportunity to become familiar with the Chase Human Resources Guide and the Chase Code of Ethical Standards.
Time:	9:15 - 9:40

Method/Media: Lecturette, class discussion

INTRODUCE	Introduce team discussion with ideas such as the following: As managers, we are often called upon to deal with HR situations. some of these are messy or complicated. How often have you wished you had a guide or specific tools to help you figure out what to do? We want to introduce you to several such tools in this exercise.
ELICIT	Ask: what are some examples of messy or complicated HR situations you have faced?
CAPTURE	Use blank flip to capture key words of examples participants provide. Use alternating colors for ease of reading. (Typical responses: poor performance, excessive lateness/absenteeism complicated by a diversity issue, low motivation, unrealistic expectations, unethical behavior, not living our behavioral values and/or department standards).
HR GUIDE	Point out that there are a variety of resources available to managers to help with situations such as the ones we've listed on our flipchart here. Among those resources is the Chase HR Guide, the so-called "red book." Ask how many participants have a copy of the Guide. Mention that you will tell them in a minute how to order a Guide if they don't have one.
DISTRIBUTE	Pass out copies of the Guide to all. Mention that the copies being used in the classroom today must be returned.

(*continued*)

PRESENT — Using Flip 4.2.2, make following points re Guide:

We have written HR policy guide chiefly for consistency—becoming familiar with the Guide and its contents is an important managerial responsibility

- Employees need to know what they may expect in the way of HR policies
- Managers need a common policy framework to help ensure fairness and reasonable consistency

Ask participants to look at the Guide's table of contents. Review categories of policies: Employment, Time Off, Compensation, Staff Development, Employee Services, etc.

Tell participants to look in the back pocket of the guide. There they will find a form they can use to order a copy for themselves if they need it.

Tell participants we will do an exercise in a few minutes in which they will have to use the Guide to find the solution to a typical HR problem.

The instructor introduces three additional policy documents, making much the same points about them as are made above concerning the HR Guide and teeing these documents up for use in a team activity as above. The three documents are the Chase Code of Ethical Standards, the Chase Performance Management Policy, and the Chase Vision and Values. Once the class has all four policy documents, the instructor leads the program participants through an exercise designed to get them to use the documents to gain familiarity with them.

Segment 4.3 — Team Activity—Case Analysis

Purpose: — To give program participants the opportunity to analyze an HR situation from the perspective of the policy documents provided them.

Time: — 9:40 - 10:30

Method: Team discussion and presentation, policy book search

INTRODUCE — You will now have a chance to use the policy documents we've been discussing

- Take out the cases handed out for reading last night.
- You will work in teams, each team on one case that I'll assign you.
- You individually will analyze the case from the perspective of one of our four policy documents.
- You will then analyze the case as a team, each team member bringing to the discussion the policy perspective assigned—so that each team sees the case from all four policy points of view.
- Each team will then present its case and educate the rest of us on the case, the policies that apply to it, and why you recommend the course of action you've decided on.

ACTIVITY — analysis and presentation by each team

Figure 7-5 Sample leader's guide pages

The Management of Teaching

The selection of people for teaching responsibility is a key step in ensuring that live instruction is properly done. It is truly crucial to select teachers for their ability to communicate. The selection may be for a permanent position in a training department as an instructor. It may also be for a contract instructor, a consultant to be hired to teach on a per-diem basis. It may be for a line person to teach on a visiting basis, either in a particular program or for a period of time (this is called the "line on loan" approach[12]). In all these cases, the focus of selection is the candidate's instructional skills, which are essentially twofold:

- ***Platform skills***—the ability to organize and present material, hold a class's attention, read and react to audience messages, use the customary teaching aids, facilitate group process (including discovery methods), and ground their teaching in the principles of adult learning.

- ***The communications mindset***—the perspective that communication (and therefore teaching) has not been successful unless and until the listener has received and internalized the message. This is the mindset which understands it is not enough to present information, not sufficient just to facilitate, not enough to follow a Leader's Guide in a planned, systematic way. It is the mindset that understands that all these things are important, even necessary, but not enough. It is the mindset that takes as fundamental that the learner's acquisition of skill or knowledge is essential and the single most important measure of instructional success.

Platform and communications skills are not always easy to identify. Standard interviewing techniques, particularly in multiple interviews, can provide a great deal of information. A history of successful teaching says much about the possession of platform skills. A candidate's familiarity with the literature on adult learning and its principles can be successfully probed. One can pick up on just how well a candidate listens in interviews, which is at least some indication of the ability to listen in a classroom. It is possible and certainly within the bounds of careful selection to ask a candidate to audition. Requiring a candidate to teach a carefully chosen module of a program, in either a real or artificial setting, is usually a revealing demonstration of both platform skills and the individual's communications mindset. Note that platform skills are far easier to acquire than the communications mindset. While individuals can be trained in presentation and group facilitation skills, the communications mindset is typically the product of a long seasoning process and can seldom be acquired in a brief 5-day, train-the-trainer program.

Once selected, teachers should be managed like other professionals, with respect for their dedication and intelligence and with ample opportunity for growth and creativity. A particular teaching risk is burnout, as organizational training tends to be a world of short workshops offered repeatedly. No teacher should be asked to teach the same workshop too often in too short a time. "Too often" and "too short" are relative terms, but asking an instructor to teach the same class over and over with little respite or change is a surefire recipe for instructor burnout.

Preparation time is another relative matter, but a rule of thumb is 3–1, or three hours of preparation time for one hour of teaching time, given a reasonable level of experience on the part of the instructor. Most instructors find the chance to observe someone else teaching a program an enormous help in preparing to teach it themselves. If this opportunity can be furnished, it usually pays off handsomely. The 3–1 rule will obviously vary according to the individual, and will, in any case, change as familiarity with a program grows through experience with it. Unrushed, uninterrupted preparation time, however, is a reasonable expectation on the part of an instructor as well as a solid principle of good teacher management. To avoid ringing phones and other distractions, preparation is best done away from the office—in a library, in a borrowed office or conference room, or at home.

From time to time, the manager of a group of instructors should observe them in the classroom. Observational data can provide the information needed for coaching the instructors, as well as for rewards and recognition. Performance plans for instructors often specify the number and variety of programs to be taught. Such activity measures, however, should not be equated with instructional success. Good instruction results in learning outcomes, which are a far more complex measure, as discussed in Chapter 3.

As a way of getting at these real instructional outcomes, teachers and managers may agree on an average rating from participant questionnaires at the end of a class. A more productive approach is to manage these ratings by exception. After all, good end-of-class ratings are to be expected and are the norm, but do not really provide much useful information about how good a job a teacher is doing, because an experienced instructor *can* and *should* get good ratings. On the other hand, managing participant feedback by exception means scanning the end-of-class comments and ratings for anything that deviates from the norm. This approach takes favorable ratings for granted, assumes the instructor should and will get them, pays attention only to those that are exceptions, and *puts the teacher's performance focus on the learner.* If this management-by-exception approach is used, performance goals for teachers will reflect agreed upon limits for the number of exceptions noted, with the limits obviously a function of factors such as program and audience type, instructor experience, environmental conditions, and the like.

Finally, the manager of teachers must exercise care to avoid the so-called "shoemaker's children" problem: trainers and development specialists never getting training and development themselves. Just as each member of the training department has a performance plan, so also should each member have a development plan. The focus of this plan should be a mix of preparation for immediate job responsibilities and longer term career thinking as appropriate. Line-on-loan instructors will obviously have job and career needs different from training professionals. The crucial point here is to make sure that reasonable levels of professional development are as much a part of the training department's plans as are its implementation schedules.

Summary

The teacher with students in a classroom is a time-honored image in our society. Today's professional trainer will work to enhance that picture and will also work to ensure that the instruction supplied in such a setting is learner-focused and well considered for the learning need at hand. Two categories of live instruction were presented in this chapter: whole-group methods (the lecture and discovery techniques); and small-group methods (such as group discussion, games, role plays).

The lecture method is an efficient means of providing information to a large group. When coupled with question-and-answer periods, this method allows learners to hear, see, and ask questions about the topics presented. However, long periods of lecturing are usually not motivating; therefore, the competent lecturer breaks up long discourses with other activities that require more active participation on the part of participants, such as making lists or small group activities. The lecturette, a brief lecture, is a staple in most training situations.

Discovery methods challenge training participants to learn for themselves. Actively engaging learners to discover concepts for themselves requires careful preplanning on the part of the instructor. The Socratic method, case studies, and informational treasure hunts are situations where learners are not given solutions to problems, but must discover appropriate responses/behaviors that are based on their own experiences and the materials available.

Small-group methods are important strategies in most training situations. Trainees in small groups learn from each other and are active participants in learning activities. Small groups may be asked to review materials and come to their own

conclusions, which are later shared with others in the class. Small groups can be motivated to learn—and learning can be fun—through games and role plays. The role of the instructor in small group methods is to plan the activities carefully and to ensure that participants not only get feedback from the instructor, but also learn to give—and get—feedback to and from each other.

In the global or on-the-move organization, distance learning is increasingly being used. In this category, the instructor and trainees are not in the same location, but are supported by a form of teleconferencing technology. Audio teleconferencing is voice-only communication; video conferencing is audio plus video; audiographic conferencing adds a slow scan, facsimile, or computer graphics to the communication; and computer conferencing is the use of special communications software that facilitates group communication. The implementation of distance learning requires that the instructor be able to use the technology well, and adjust his or her traditional teaching methods. Adapted methods include less talk on the part of the instructor, small group work to ensure more active participation from participants, and directed questions to ensure that all participants feel that they are part of the group.

Instructional aids—overheads, handouts, flip charts, presentation software, and video—will be brought to the classroom and used by the live instructor to enhance learning. Behind the scenes as an instructional aid is the single most important one: the Leader's Guide, which details the objectives, content, methods, and major points of the program. Ensuring that instruction is delivered according to the Leader's Guide is one way to sum up the responsibilities of teacher management. These responsibilities also include an emphasis on careful teacher selection, on approaches to teacher performance management that require a learner focus, and on appropriate development for teaching personnel.

Questions

1. "Lecture only if you must." Do you agree or disagree with this statement? Support your response.
2. Identify three of the many alternatives for delivering training programs face-to-face. Give an appropriate training problem/opportunity for each.
3. Describe some characteristics of effective visuals, such as overhead transparencies or flip charts. Why is it so important that such visuals be of professional quality?

4. The Leader's Guide has been described as a teaching resource, not a teaching script. When is it acceptable for a trainer to deviate from the Guide?

5. Define distance learning. What alternatives do organizations have for delivering instruction from afar? Give an appropriate training situation for each alternative.

6. List several pointers to follow when using flip charts.

7. Has there been a teacher in your life who has "made a difference?" Describe the teacher and the circumstance in which s/he made a difference? What was the impact of this teacher? The result of that impact? From your experience with this teacher, what would you like to bring to your students?

8. Imagine you are a junior training professional just hired at the XYZ Company. Plan an initial personal development discussion with your manager. What sort of development would you consider appropriate for yourself for your first year? Why?

Applications

1. Break into pairs. Tell each other about a teacher-led learning experience that you thought was very effective. What was it about the experience that contributed to its success? Next, tell each other about a teacher-led learning experience that was not successful. What caused the experience to be problematic?

2. Attend a computer trade show and try (or observe) demonstrations of a variety of presentation graphics packages. Obtain literature from vendors. List key features and compare them across packages. Which seems most appropriate for a trainer?

3. Create a T-Chart. On the left had side of the "T" write "good ways to handle student questions." On the right side, write "bad ways to handle questions." Complete the chart based on your own experience.

4. Contact a local training manager and ask about the issue of instructor burnout. What has been the manager's experience of it? How/why does it happen? Has the manager developed any telltale signs of its approach? Any methods for handling it? Any ways of preventing it?

Additional Reading

Eitington, Julius E. *The Winning Trainer.* Houston: Gulf Publishing, 1984. 423 pp.

A comprehensive reference book for training professionals. Includes an appendix of valuable resources—forms, checklists, and other practical job aids.

McKeachie, Wilbert J. *Teaching Tips: Strategies, Research, and Theories for College and University Teachers,* Ninth Edition. Lexington, Mass.: D.C. Heath and Company, 1994, 444 pp.

This very well written and organized paperback is crammed with helpful information intended for instructors at all adult teaching levels and in a wide range of teaching environments. If you can not find instructional help here, it probably does not exist anywhere.

Mager, Robert F. *Making Instruction Work: or Skillbloomers.* Belmont, Calif.: Lake Publishing Company, 1988. 200 pp.

One of Mager's best in his bookshelf of superb work. The book is about what he calls the "craft of instruction," and he is at top form in providing guidance to ensure instruction is properly chosen as a solution and well done in its implementation. Written with a practitioner's wealth of experience and Mager's usual dosages of puckish humor.

Powers, Bob. *Instructor Excellence: Mastering the Delivery of Training.* San Francisco: Jossey-Bass Publishers, Inc., 1992, 246 pp.

A fine, up-to-date discussion of the issues involved in stand-up teaching. Note the book title's implicit equation of instruction with training delivery. The book itself is smarter than that. Particularly useful in evaluating and managing teaching.

See also the annual publications by J. William Pfeiffer and Richard Frantzreb mentioned in endnote #9.

Endnotes

1. Eitington, Julius, *The Winning Trainer.* Houston: Gulf Publishing, 1984, p. 232.
2. Davis, Barbara Gross. *Tools for Teaching.* San Francisco: Jossey-Bass, Inc., 1993, pp. 88–89.

3. Duncan, Quentin (Rev.) in speech class held at Whitefriars Hall, Washington, D.C., circa 1958–59.

4. Christensen, C. Roland, David A. Garvin, and Ann Sweet. *Education for Judgment: The Artistry of Discussion Leadership.* Boston: Harvard Business School Press, 1991, p. 11.

5. Ibid., pp. 159–160.

6. Newstrom, John. W., and Edward E. Scannell, Edward E. *Games Trainers Play.* New York: McGraw-Hill, 1980, pp. xii–xiv.

7. Davis. Op. cit., pp. 137–138.

8. Davis. Op. cit., p. 137.

9. See three sources:

Pfeiffer, J. William (ed.). *The 1994 Annual: Developing HR.* San Diego: Pfeiffer and Company, 8517 Production Avenue, San Diego, CA 92121, (619) 578-5900/ Fax: (619) 578-2042. A three-ring binder published annually with sections devoted to games and other experiential learning techniques, inventories of surveys and questionnaires, and resources for presentations/discussions on topics of current interest in the world of human resource development. The binder format makes it easy to use the material provided.

Frantzreb, Richard B. (ed.). *The Training and Development Yearbook.* Englewood Cliffs, N.J.: Prentice-Hall. This book is rich in training materials, tips, current practices, hot topics, new techniques, and the like. This book comes in standard book binding.

Newstrom, John W., and Scannell, Edward E. *Games Trainers Play.* New York: McGraw-Hill, 1980. *More Games Trainers Play.* New York: McGraw-Hill, 1983. *Still More Games Trainers Play.* New York: McGraw-Hill, 1991. Games and program exercises gathered from experienced trainers at annual training conferences and other gatherings. A wealth of material in categories such as ice breakers, communications, listening, and perception. Each entry states objectives of use, materials required, how to do the game or exercise, time needed, and suggested debriefing questions. This book comes in standard book binding, but with perforated pages for ease of use in programs.

10. Bostrom, Robert. Presentation in a workshop, University of Baltimore, 1990. Any number of answers are correct. One set of correct solutions is: (1) place an "S" before the IX; (2) alphabetic; (3) "S" for Seven; (4) Group 1 is made of straight-line letters; Group 2 is curved letters.

11. Crawford, T. James, in a lecture at Indiana University, circa 1980.

12. "Line-on-loan" is the term used in ASTD's Benchmarking Study for line personnel who are visiting instructors.

Chapter Eight

Training Delivery: Mediated Instruction

Highlights

- When, where, how, and why to use mediated instruction
- How adult learning principles link to mediated instruction
- Examples of mediated methods: books, audio and videotapes, computer-assisted instruction, interactive multimedia systems, computer-supported learning resources, and performance-support systems
- Strategies for delivering mediated instruction
- Perspectives on evaluating mediated instruction outcomes

Setting the Stage for Mediated Learning

> New technology does not usually diminish the use of old methods; we use a technology when it serves a particular purpose, when it is effective.[1]
>
> — Lipson, 1984

One of a training department's key responsibilities is to constantly explore new ways to encourage and support learning. Trainers in organizational settings use every conceivable method to ensure that their workforce can do what is necessary for the organization to survive and prosper. Traditional classroom-based delivery of training is widespread and popular. However, trainers also employ a whole gamut of other delivery methods, attempting to discover the best possible match between organizational expectations, learner needs and abilities, and content for each learning situation.

Mediated instruction is an alternative or a complement to the live instruction methods discussed in the previous chapter. Mediated instruction has been called self-directed learning, self-paced learning, individualized instruction, or prescriptive learning, and has been used as a synonym for technology-assisted training. The term mediated describes a situation in which instruction is delivered by some form of media rather than by a live instructor. Training departments use many different mediated approaches to learning. The times demand innovation in providing the quantity and quality of learning experiences that workers need.

This chapter begins with a brief discussion of selected adult learning principles applied to mediated instruction, and then continues by describing how mediated learning fits into the training cycle and how it differs from traditional live instruction. The bulk of this chapter will describe specific mediated learning methods and how to use them—a wide range of learning tools, including books and tutorials, computer based training, interactive multimedia systems, computer-supported learning resources, and performance support systems. The chapter concludes with suggestions for implementing and evaluating mediated instruction.

Adult Learning and Mediated Instruction

In addition to being an efficient way to provide learning experiences, mediated instruction also fits well into what is known about how adults learn. In self-paced, mediated instructional programs, learners take charge of their learning, determining how fast they will learn, and adjusting learning materials to their own learning style and needs. Adults learn for many reasons. Some need technical skills to master their current job, obtain a new job, or maintain professional certification. Sometimes the learning goal is to enhance self-esteem, communications, decision-making, or life-coping abilities. Some seek learning for personal enrichment and the joy of mastering new skills and understanding new concepts. Learning has a positive snowball effect: the more one learns, the more one wants to learn. Ideally, in this process, the learner also becomes more skilled at learning how to learn.

With mediated instruction, learners determine when to learn, can progress at their own speed, are able to review lessons any number of times, can self-diagnose

progress, and can fit learning into a busy schedule more easily. In mediated instruction, participants are actively involved in their learning experiences. This inherent participation, combined with control over the medium encourages the learner's ownership of the learning process and leads ultimately to the mastery of the content.

Choosing an Instructional Strategy

Consistent with adult learning principles, it is important that needs assessment be *co-diagnostic*. In any needs assessment (see Chapter 2), members of the training audience (learners) should be deeply involved in the process of identifying their own needed knowledge, skills, and attitudes. With such co-developed needs assessment outcomes in hand, one can then determine if the best way to address the learning needs is through live or mediated instruction. In making this decision, one starts with the objectives of the organization, the learner, and the learning content. At this point, too, one takes organizational constraints, such as time and budget considerations into account.

Mediated instruction is often used when the audience has a wide range of experiences and/or abilities, since its self-pacing accommodates such a population. Similarly, mediated instruction can also be used effectively when a large audience is spread out geographically. It is also appropriate when a small number of learners needs to learn a specific skill, or when a repeated need for new people to learn the same skills is identified. Increasingly, its match with many learners' preferred learning styles and schedules is enough to put it in the mainstream of delivery options. Mediated instruction may, of course, also be used in conjunction with traditional, live instruction. The two approaches to instructional delivery—live and mediated—can complement rather than replace each other.

Choosing the appropriate mediated method is a process of matching the learning objectives, the learning style of the target audience, characteristics of the various media, and the media's ability to support appropriate learning activities. Moreover, the expense and time related to developing the materials is a major consideration. Developing mediated instructional materials in house can be a very expensive, time-consuming process. It is almost always less expensive to buy off-the-shelf materials, and then, if necessary, adapt them to a particular audience.

A Variety of Media

Following is an overview of selected media, including examples of their use in instruction: books and journals, audio and videotapes, computer-based training (including multimedia systems), computer-supported learning systems, and

performance support systems. While we can discuss these media as distinct options, in reality mediated instruction is often a combination of media.

Paper-Based Materials

The printed document is an extremely comfortable, familiar, simple, transportable, and easy-to-use learning medium. Much informational training is paper-based. Company newsletters, bulletins, and simple job aids are usually developed internally and are appropriate for a wide variety of learning needs. Entire courses can be developed and distributed via paper. The skilled use of desktop publishing allows training departments to internally develop and produce professional-looking and high quality learning materials.

Books and Journals

Books and journals are other paper-based learning resources. Many organizations maintain large libraries, complete with up-to-date subscriptions to relevant business magazines and journals. These libraries often have a wide range of classic and best-selling books on a number of topics of interest to employees. Reference books such as atlases, statistical abstracts, handbooks, manuals, or writing guidebooks such as Strunk and White's *The Elements of Style*[2] also line the shelves.

However, simply having print materials available may not be enough to reach the desired learning outcome. While it is valuable to have a library, if a book is to be part of a specific learning strategy, it should be packaged with other learning resources such as study guides or checklists. Other examples of ways to help a reader use print-based materials proactively include:

- Well-articulated learning objectives that are tied to performance goals.
- A study guide that includes exercises such as requiring the reader to outline a chapter, respond to discussion questions and/or complete application activities.
- An interactive log, whereby the reader is asked to record reactions that are meaningful, and why they are meaningful.
- Learning activity sheets, where the learner identifies his/her progress in mastering materials, and provides these reactions to the training facilitator.

Written Tutorials

Another type of paper-based instruction is a *written tutorial* on how to do something, such as use application software. Such tutorials are often found as part of a software manual and while they can be useful in initial training efforts, they are often difficult to follow for the first-time user. Increasingly, tutorials are

developed as a part of application systems, and when they are computer-based, they are considered within the category of computer assisted instruction, which is discussed later in this chapter.

Audio- and Videotapes

Audio and videotapes add communication channels to print-based learning materials. Audio provides an oral, human element to learning, while videotape provides an added dimension of visual instruction. "Books on Tape" is a popular section of many bookstores, and audio and video libraries are commonly found in organizational training departments. Tapes offer content, discussion, demonstrations, and examples that assist the learning process. Typically, audio or videotapes are used in conjunction with print-based materials. Like all mediated instruction, audio and videotapes allow learners to follow at their own pace and convenience, as shown in the three illustrations that follow: Illustration 8-1 is a prerecorded audiotape as used for informational training; Illustration 8-2 shows the use of videotapes for participant self evaluation; and Illustration 8-3, which is quite different from the other examples, depicts an advertisement for a commercially available videotape and book that teaches customer service techniques.

The sales representative of ArtWorld pops an audiotape into the sound system of the car and, after a few seconds, a popular song fills the air. The song tapers off and the voice of the marketing manager comes on: "What's new at Art World is an improved method to silkscreen prints . . ." Another song follows the information about the new system and, after that, more news about other ArtWorld updates. The audiotape, thus, allows the automobile to serve as a learning environment.

Illustration 8-1 Prerecorded audiotape (sales information)

As part of a sales training program in a large insurance company, trainees learn sales presentation principles through video-taped examples and print materials. They are required to prepare a series of tapes depicting their own sales presentations for different types of clients and for selling different types of insurance. The trainees outline their presentations, practice them, and then schedule an appointment with the media group to be recorded on videotape. In one scenario, for example, they are asked to role play making a presentation on disability insurance to the board of directors of a large corporation. After the videotaped presentation, they review the recording and evaluate their performance using a checklist provided in the learning materials. If they are not satisfied with their performance, they can redo the tape. Since no instructor is present, the inexperienced salesperson is not embarrassed by mistakes. Later, at a time chosen by the trainee, an instructor will listen to and critique the tape for the individual trainee. The final step in the training program is a "live" presentation, with another trainee playing the client's role.

Illustration 8-2 Student-prepared videotapes (self-evaluation)

This all-new series from Mentor Media comes with the best possible pedigree: it features well-known comic actress Lily Tomlin playing an incredible repertoire of characters, and it's based on Ron Zemke's and Kristin Anderson's highly regarded book, *Delivering Knock Your Socks Off Service*. Each program is accompanied by a Facilitator's Manual and a Participant Workbook developed by Ron Zemke and Kristin Anderson of Performance Research Associates. Here is what you will see and learn:

- **The Seven Deadly Sins of Customer Service**
  Lily Tomlin stars as Bobbi Jeanine, cocktail organist in Dante's Lounge, who reveals the Seven Deadly Sins of Customer Service in a fiery show that is the last stop before descending into Customer Service Purgatory. This film will help everyone avoid the costly sins of offending and losing customers. *21 minutes.*
- **Dealing with Disappointed Customers**
  Lily Tomlin as Shirley Wright shows viewers how to handle disappointedcustomers when no one is at fault. Learn how to redeem any difficult situation by learning to listen, probe, and solve. *20 minutes.*
- **One Ringy Dingy: You Are the Company**
  Everyone who answers the phone should see this one! Caught in the act as she commits every receptionist's error in the book, Ernestine—the rudely real telephone operator extraordinaire—learns five secrets of perfect telephone technique and five ways to improve vocal quality. *18 minutes.*
- **What Customers Want**
  Set in "Krabbie's," a restaurant of Krab-cakes and Krab-apple pie, Lily's characters learn that customers expect responsiveness, assurance, tangibles, empathy, and reliability. *19 minutes.*

Illustration 8-3 The Lily Tomlin Customer Training Series[3] (customer service training)

The medium for the delivery of audio and video material is clearly changing. While the existing stock of analog audio and videotapes is enormous and will be around for a good while, industry experts expect digital-media-based storage, specifically CD-ROM, to replace analog tapes by the end of this decade. The following discussion of computer-based training includes a discussion of the benefits of CD-ROM technology.

Computer-Based Training

The use of a computer as a delivery vehicle has resulted in an alphabet soup of acronyms and specialized terms that refer to instructional delivery options that use the computer as the training delivery platform. The umbrella term for these options is *computer-based training* (CBT), and includes:

- CAI: computer-assisted instruction
- CMI: computer-managed instruction
- interactive multimedia systems
- CSLR: computer-supported learning resources
- performance-support systems

All of these options require that learners be *participants* in their learning experience. Users must frequently keyboard answers, touch the screen, use a mouse, draw a graphic, and/or seek and find information in their learning materials. Active learners learn more and retain more than do passive learners. Research has shown that the use of CBT materials fosters individual activity and ownership on the part of learners and thus results in learning that is not only quick and efficient, but is also retained for longer periods of time.[4] Following is an overview describing each of these tools along with examples of how they are used.

Computer-Assisted Instruction

Initially, *computer-assisted instruction (CAI)* programs consisted of mainframe-based versions of linear programmed instruction. This early CAI quickly evolved into random-access, multi-branching learning modules based on mainframes, networks, and/or microcomputers. CAI supports self-directed learning as the user can navigate among the learning modules, selecting topics of interest in whatever order is deemed logical and that fits the user's problem-solving style. Applications of CAI include tutorials, drill and practice, instructional games, modeling, simulations, and problem solving. Moreover, CAI systems are not limited to text-based applications, as multimedia instructional systems (discussed later in this chapter) include any or all of the following:

- text: words
- graphics: still images such as photographs or line drawings
- animation: moving graphic images
- sound: narration
- video: full-motion video on the workstation screen

Computer-Managed Instruction

Computer-managed instruction (CMI) refers to the use of a computer system to keep rosters, learner profiles, class schedules, and test scores. When CAI is merged with CMI, the result is an instructional system that can be used for assessment, actual instruction, keeping student records, and/or prescribing and controlling individualized lessons. CMI systems can generate, administer, and score tests, and many have built-in pre- and post-tests (see Figure 8-1). This means that learners have a reinforcement and feedback source available that allows them to control the point at which they self-determine that they have mastered a given learning module and are ready to demonstrate that mastery.

The organization's management may also be interested in collecting training administration information in order to manage issues such as training efficiency and effectiveness. Test scores provide some insight into whether people are learning

Figure 8-1 (a-c) Three sample reports generated by a CBT[5]

Report Menu

[1] To display your scores;

[2] To print your scores;

[3] To copy score results to diskette;

[4] To copy score results to PC;

[5] To return to the main menu;

Please type the number of your choice _____

Figure 8-1a Sample report menu

Name: _____

Date	Time	Module	Score	Repeat?
03/14/00	00:00:00	Ground Service—Pre-Certification	85	Y
03/14/00	00:03:23	Ground Service—Post-Certification	100	N
03/14/00	00:07:06	Air Service—Pre-Certification	80	Y
03/14/00	00:05:41	Air Service—Post-Certification	100	N
03/22/00	00:05:35	Int'l Service—Pre-Certification	65	Y
03/22/00	00:04:32	Int'l Service—Post-Certification	95	N
03/22/00	00:05:17	Air/Grnd Service—Pre-Certification	75	Y
03/22/00	00:05:45	Air/Grnd Service—Post-Certification	90	N

Total Time Spent on the CBT: 1 hour: 35 minutes
Manager's Signature _____
Date _____

Figure 8-1b Sample service skills training–score results

Introduction to the CBT

Introduction to the PC

Keyboard Basics

DCS System Overview

Using DCS

Using DCS S–T*

*S–T is an abbreviation for Self-Test
<D>– Display Report <M>– Report Main Menu

Figure 8-1c Sample report of CBT lessons completed

as planned. Usage statistics—frequency, repetitiveness, and length of access—help assess effectiveness. Are the right people doing the learning? Do all or some have to repeat lessons? Does the learning take longer than planned? While such questions are certainly legitimate issues for management, care must be exercised to ensure that such data are gathered only with the full knowledge and concurrence of the learners.

Interactive Multimedia Systems

Multimedia-based, interactive learning systems combine the capabilities of many media and come in four formats: interactive videotape; laser disk; compact disk read-only memory (CD-ROM); and compact-disk interactive (CD-I). The interactive computer feature enables self-paced and self-directed instruction. Because of the sensory input of graphics, animation, sound, and video, multimedia systems can match many learners' preferred learning style.

Interactive videotape format. To use the interactive videotape, the user responds to instructions that appear on a video monitor. An interface device links the computer with the video player, allowing the user to match the video presentation with specific lessons. However, this process is relatively slow because the videotape, linear in nature, does not allow for random access. While videotape is the least expensive interactive multimedia format, its use is expected to fade because of limitations related to ease of use, the need for specialized equipment, and the increasing availability of alternative media, especially CD-ROM.

Laser disk format. The laser disk, which is about the size and shape of a LP record, offers much higher resolution than videotape. Its major advantage is that it can hold huge volumes of digital information in a variety of formats that can be randomly accessed. However, large, single-purpose laser disk players are required. Using the laser disk or CD-ROM format (discussed next) allows a collection of teaching/learning materials to consist of any number of different media organized around a single topic.

CD-ROM format. Compact disk–read only memory (CD-ROM) is considered a driving force of multimedia applications. CD-ROM overcomes the access limitations of videotape and adds to the advantages of the laser disk by overcoming much of the expense of specialized equipment. Small, multi-purpose compact disk drives can be easily and inexpensively added to microcomputer systems. In fact, many major vendors such as Microsoft, Apple, and Novell are offering their products and documentation on CD-ROM instead of on floppy disks or on paper. While CD-ROM is an excellent storage and retrieval medium for text, standard CD-ROM disk drives are relatively slow for interactive presentations that require immediate response. Increasingly, however, as access time and transfer rates are improved, the interactive multimedia format of choice is expected to be CD-ROM.

CD-I format. Addressing the speed issue, Phillips, the international consumer electronic corporation, has attempted to develop a multimedia delivery standard known as compact disk-interactive (CD-I). CD-I is the term used for disks that can be played on an audio compact disk player, but have additional interactivity features when the disks are played on the proprietary Phillips CD-I device. The CD-I device plays standard audio compact disks, game disks, and photo disks, as well as Phillips CD-I disks, and is connected to a television set as the display monitor. Offering portability, Phillips also markets a hand-held unit with its own screen.

Computer Supported Learning Resources (CSLR)

The term *computer supported learning resources (CSLR)* encompasses four distinct modes that serve as just-in-time reference materials: telecommunications, expert systems, databases, and hypermedia. CSLR are used much as a library—but with the added computer capabilities that ease communication, retrieval, examination, and manipulation of data.[6]

Telecommunications. Help desks and online help facilities are distance alternatives to face-to-face coaching, and for this reason are included here under the category of *telecommunications.* Most *help desks* (also called hotlines) offer centralized tutoring from a person at the other end of the telephone line. *Online help* is assistance from the computer program itself at the touch of a key. Both services are highly interactive, and both offer support at the time the support is needed.

Help desks can be located anywhere—within the organization, at the software vendor's site, or elsewhere over an 800-number. Help desk agents, trained in trouble-shooting and with strong interpersonal skills can offer the learner immediate help via the telephone. The objective of the help desk is to increase user satisfaction and morale by providing just-in-time training. Highly trained help desk agents work to assist the perplexed user solve specific, real problems. Because 800-numbers can reach anywhere, vendors have a great deal of flexibility in assigning their help facilities. Digital Equipment Corporation's help desk, for example, is in Ireland, the site of a competent and inexpensive workforce.

A technology-based aid to help desks is *screen-sharing* software that allows a help desk agent to view the problem as it exists and manipulate the user's screen. This aid greatly speeds up the help process, as users frequently have difficulty in describing their specific problem. A help agent using screen-sharing software, for example, can provide immediate and visual feedback on how to solve a specific problem. Such responsive coaching builds on the value of feedback, which is enhanced because it is immediate, personal, and graphic. Screen-sharing software is built into many classroom LAN programs. Reminiscent of language-training labs, this capability allows an instructor to "tune into" whatever the learner is doing.

Online help programs, on the other hand, offer computer-based assistance, which is built directly into the software application package. When the help function is context-specific, a user having difficulty mastering a word processing package's mail-merge function, for example, presses the help key and is immediately offered text-based instruction on how to use this function. Context-specific help is an increasingly important marketing feature of nearly all best-selling software packages.

Expert systems. When knowledge is rule-based, rules can be automated. An *expert system* is a computer program that incorporates the knowledge of an expert or group of experts on a particular subject and enables a user to systematically ask questions related to that knowledge. It mimics human reasoning by using facts, rules, and inferences; such reasoning corresponds to non-linear thinking and problem-solving skills. Expert system development requires that a computer programmer, known as a knowledge engineer, work closely with a subject-matter expert (or domain expert) to ascertain the facts, identify the rules, and then develop an effective user interface. See Illustration 8-4 for examples of expert systems in operation.

The manager responsible for monitoring the huge soup vats at Campbell Soup Company is planning to retire. Knowledge engineers are "saving" his years of experience and expertise for his successor. Westinghouse uses an expert system to monitor steam turbines, to alert operators when something goes wrong, and to recommend solutions. General Electric uses an expert system for locomotive repair. Morgan Stanley Company uses an expert system that assesses securities market conditions and provides trading recommendations.

Illustration 8-4 Expert systems cases[7]

Databases. While expert systems support structured information, most knowledge is less structured and takes the form of wisdom, experience, and stories rather than rules.[8] Capitalizing on this knowledge, Hughes Space & Communications plans to build its own "knowledge highway."[9] Hughes has begun a pilot project that will connect existing "lessons learned" *databases* that have been developed on groupware products such as Lotus Notes. Hughes is working on software that will make such databases easier to use and expects, for example, that designers of new satellites will have better and more timely access to technical and regulatory information.[10] For another example, a firm of technical information specialists, Support on Site for Applications (SOS), has compiled its secrets and troubleshooting tips on CD-ROM. Using this CD-ROM, users search for a wide variety of help just as if they were using a dial-up, fee-based information service. The goal of such databases is not simply to create a warehouse of information but to keep track of the wide variety of wisdom, experience, and stories that comprise "information."

Hypermedia. Hypermedia is a way of accessing text as well as graphics, video, and audio information. The term *hyper* means over or above. One way to describe hypermedia is that it is software that sits over the application software. This provides navigation functionality that is independent of the sequential flow of the text. Employing hypermedia commands allows users to take multiple, alternative routes through information, depending on their particular needs. Its flexibility provides a wide variety of opportunities to meet the needs of audiences who have varying expertise and diverse strategies for using reference materials. For example, an experienced employee, trying to resolve an unfamiliar problem might move through the text step by step; however, that same employee, in trying to learn more about a new product, might navigate randomly, making linkages when needed.

Performance-Support Systems

Perhaps the term that best describes recent trends in mediated job aids is *performance support.* Performance support is defined as an application of technology that directly links training and support to performance. A performance-support system might include online help and reference, hypertext, computer-based training, multimedia, and expert systems, as well as printed materials, video, classroom training, or other more traditional materials. Its objective is to provide information or assistance at the time the user needs it, and actually reduces the need for learning. Akin to coaching, performance support operates as a tireless teacher, its emphasis is on quality, and it is learner-directed.[11] Following are two examples of performance support concepts in action:

> *J. C. Penny's performance support system of help, reference, and just-in-time training is integrated with their network of transaction processing systems that support their retail stores. Each of Penny's 1200-plus stores formerly relied on more than 100 reference manuals that had to be updated regularly. Online help and reference were built into existing systems, and all new applications include help and training capabilities built right into the design. At J. C. Penny, hardcopy documentation is disappearing.*

> *The objective of the Aetna Management Process (AMP) was to improve the rigor and quality of business analysis at Aetna. AMP is a step-by-step analytical process to assure that decision making never occurs in a vacuum, but is always undertaken with the company's mission and goals in mind. When it became apparent that conventional training was not accomplishing this objective, Aetna designed a PC-based performance support tool to guide managers in executing the process, self-evaluating their own work, and creating appropriate deliverables.*[12]

Organizations often find that mediated instruction is an efficient and effective way to get learning resources to its workers. Moreover, when mediated

instruction is tied into the concept of performance support, it puts the resources of the organization at the fingertips of the user. Such *just-in-time learning (JITL)* is considered the most effective type of learning—it is purposeful, and the user applies it immediately, thus reinforcing the learning.

Figure 8-2 describes situations where specific mediated methods may be appropriate, along with their advantages and disadvantages.

Producing Your Own Courseware

Producing original learning materials is an art as well as a science. To do it well takes time, practice, expertise, and money. To develop *courseware*, a term often used to describe mediated instructional materials, requires not only high-level instructional design skills, but often teams of subject-matter experts, artists, technicians, documentation writers, analysts, and programmers. CBT development, for example, requires considerable time and effort, and it has been estimated that courseware teams spend a minimum of 200 to 300 hours to develop one hour of instructional materials.

Courseware development or selection always begins with the learning objectives. An extensive variety of mediated learning materials already exist, of course, and whenever possible and appropriate they can be purchased for a given learning outcome. Modifying such purchased materials is an option, but modification can be costly and possibly void supplier warranties and support. Printed materials must be of publishable quality and any multimedia materials must have quality graphics, animation, video and/or sound. Thus, development can be an expensive and time-consuming process. Such quality materials are essential, however, if learners are to get the full benefit of the content being described. Learners have little patience with poorly designed and executed materials.

But instruction is more than professional-looking materials. Enhancement of presentation and the effectiveness of the learning experience are two different things. In selecting CBT as a delivery option, one should keep in mind that excellent media can "never compensate for bad writing, poor design, trivial information delivery, or mundane feedback."[13]

> *Once we become enamored by the delivery system, and perhaps even dazzled by our own magnificence at mastering its use, we are in grave danger of loosing sight of our original goal, which should be to deliver information that is useful to the learner.*[14]

Delivering Mediated Instruction

Mediated instruction can be centralized, occurring in a learning center, where learners go to a specific location for learning resources and use them there.

Approach	Commonly used in situations where	Advantages	Disadvantages
Books and Journals	the content to be learned is reflected in excellent concepts/ skill materials that already exist	excellent self-paced instruction; materials are extremely portable	to be effective, must be coupled with quality learning activities
Written Tutorials	learners have a content base to build on; are highly motivated to learn	no special equipment required	learner may have difficulty keeping attention on materials
Audio & Video Tapes	training program is continuous; need to reach dispersed audience	additional sensory input (sound and sight) valuable	to be effective, tapes must be high-quality; time consuming and costly to develop; hard to maintain
Computer-Assisted Instruction	actual situations need to be simulated; provides opportunity for appropriate practice	provides opportunity for continuous feedback; learners must be active participants	time consuming and expensive to develop; hard to maintain; multimedia may be required to keep learner interest
Computer-Managed Instruction	recording of learner performance is important	provides learner assessment and record-keeping	effective for learning only to the extent that it is linked to other learning resources
Multimedia	large numbers of dispersed learners exist to offset high development costs	offers sophisticated storage and access of learning resources; highly engaging medium	technology may not be portable; development time long and expensive; quality lessons require significant effort
Computer-Supported Learning Resources	dispersed users need just-in-time support	quick, easy access to expert assistance at the time learning is needed	development time is long; expense high; motivation of learner and user interface vital
Performance-Support Systems	user needs on-going assistance	quick, easy access to expert assistance at the time learning is needed; reduces the need to memorize procedures	development time is long; comfortable, logical user interface necessary

Figure 8-2 Advantages and disadvantages of eight mediated instructional approaches

This is often the case when technical resources such as interactive video systems are part of the process. The learning center may be housed at a company site or at a vendor's location (see Illustration 8-5 later in this Chapter). However, the ideal—increasingly achievable through computer networks—is that mediated instruction be distributed, meaning that the location of learning is anywhere appropriate and convenient for the learner. The key is that the learner's workstation can access the instructional materials and the learning environment is conducive to learning.

The trainer's delivery role in mediated instruction is to create an implementation plan for the learner, and then guide or coach the student in the effective use of the learning resources. Getting the mediated instructional materials into the hands of the learners is only the first step. The ongoing role of the training professional is to ensure that the materials are used as expected. This means that careful planning is required. Especially when the learning effort is extensive and affects a large number of learners, it is extremely important that the materials be pilot tested, packaged and distributed appropriately, and opportunities for student feedback worked out.

Pilot Test

A *pilot test* is a planned and managed test drive of the instructional approach. It serves as a trial of the training program. Trial results are analyzed and fed back to program designers and developers who then ready the training for a larger population (multiple locations or the entire organization). The pilot test is an opportunity to:

- determine that use of the materials can result in the desired learning outcomes
- determine the usefulness of support materials
- determine how long it takes learners to master the content
- determine types and levels of live support needed
- develop and test strategies for offering feedback
- obtain the general reaction of users to the usefulness of the materials and their ease of use
- modify materials based on trial results
- collect data on all of the above to use to sell the package to learners and the organization

Distribution Strategy

With traditional live instruction, the learner comes to a classroom and is led through a series of planned learning exercises. When mediated instruction is involved, implementation means developing a strategy to get materials to learners, maintain the materials, and distribute changes or updates. Implementation also means supporting the learning process itself by answering questions, clarifying instructions, and dealing with any glitches that may exist in the learning materials. This aspect of implementation is often overlooked in planning. The trainer cannot simply give the materials to the learner and then assume that the training job is over. Especially when mediated instruction is being used for the first time, the trainer needs to be sure trainees *and their managers* understand that time needs to be set aside for learning even though learners may not be going to a classroom.

Illustration 8-5, "CBT at PHH Vehicle Management Services," illustrates a variety of issues related to implementing mediated instruction.

The introduction of mediated methods in an organization is a complex issue. Risks can be high and costs can be great. Training professionals must have a vision and a tolerance for risk if they intend to encourage innovational approaches to learning. Management must also have effective delivery strategies that not only support learning but also support the organizational culture.

PHH Vehicle Management Services (PHH VMS), Hunt Valley, Maryland, specializes in fleet leasing and vehicle support services. The 900+ employees of PHH VMS obtained their computer skills training through a local vendor who provides full-day courses on the basic use of the computer, MS Word, Excel, PowerPoint, and Windows. Course delivery was coordinated through the PHH VMS small training department. Courses were popular. However, as a service business, employees were concerned that they needed to be close to their customers, and often could not devote a full-day to learning.

Marc Sokol, Ph.D., Director of Human Resource Development, was asked to examine CBT as a possible alternative to or as an additional strategy for delivery of microcomputer skills training. He asked himself whether, even if CBT were an appropriate alternative, could a small training department support it effectively? Would the organization need to develop CBT internally? If not, who were the major CBT vendors? How could the applicability of CBT to his organization be examined? To help him answer these questions, a study team (consisting of himself, one trainer, one human resource information specialist, and two people from PHH VMS's information technology unit) started by visiting three very different types of organizations that were heavily involved in developing and using CBT.

First, they visited United Parcel Services (UPS), a large information- intensive organization, in New Jersey. At the time of system development, UPS's CBT development group creates training modules that are shipped when the new software is shipped. UPS has a large number of specialized CBT developers; their CBT outcomes are sophisticated, tailored, intensive, and expensive. Of course, because they support a large number of users world-wide, the investment is extremely cost-effective.

Next, they visited a smaller company, an insurance company, GEICO (*G*overnment *E*mployees' *I*nsurance *C*ompany), located in Washington, D.C. While not nearly as extensive as UPS's CBT group, GEICO had a subgroup of four training professionals reporting to the Human Resources and Training Department that were directly involved in CBT development. GEICO's CBT products were labor-intensive and expensive but considered extremely effective for their distributed users' learning needs.

(continued)

The last site visited was a small leasing company, O-E Midlantic, a value added reseller that specialized in the CBT equipment, software, and learning facilitation. Hardware, including state-of-the-art computers, laser disks, CD-ROMs, and sophisticated computer software, was set up in O-E Midlantic's learning center. Visiting the learning center at any time between 8 A.M. and 5 P.M., clients—who came from many diverse organizations in the metropolitan region—could pop in a program, and a video within the system would guide the learner on one of three levels: beginner, intermediate, or advanced. The learner would choose an appropriate level, and by using a toggle could switch between the instruction and the actual software application.

The study team was intrigued with the third organization, as its approach was not as staff intensive as the other approaches, the individual learner had control, and like the teacher-led instruction, it was an outsourced solution. PHH VMS's culture to date had been high tech/high touch and the company employees were used to and expected live instruction. Therefore, the study team determined they would examine the learning tools in a manner that would also support the change in the learning delivery itself (remember this as you read Chapter 11). So, they developed a three-month, three-stage test.

For the first month, everyone in a single department—the Human Resources Department—was signed up for two courses. Sokol encouraged employees in his unit to go to the O-E Midlantic site for two half-day courses. At the end of the month, department members discussed their experiences. Experiences were generally positive, but the team still wasn't sure that CBT was for "everyone." Specifically, the group felt that this might not be the best solution for someone with absolutely no prior computer experience or for someone who wanted the feeling of comfort that comes with an instructor-led class.

During the second month, the study team identified 15 people from throughout the organization who had previously used the instructor-led microcomputer training, and invited them to participate in the training free of charge. This time, individuals could go to O-E Midlantic when they had time—anytime within the 8 A.M. to 5 P.M. learning center hours. These more experienced users could work at a level appropriate to their learning needs, and were very enthusiastic about their experiences. However, they reported that the 8 A.M. to 5 P.M. timeframe was too restrictive and the learning center itself was noisier than they would like.

During the third month and the final phase, the study team leased two complete learning systems, set them up in a small room, offered headphones, advertised that the equipment was available on a sign-up basis, and brought in the vendor to demonstrate the equipment in the firm's cafeteria and in the lobby. Advertised as "free training for a month," individuals were urged to sign up for a trial use of the system. To the team's astonishment, over 100 people signed up, and by the middle of the month the room was booked from 7 A.M. to 7 P.M. during the week *and* frequently on weekends. Users' feedback was that the system was easy to use, more effective than the live instruction, and fit more easily within their busy schedules.

As the third month wound down, the question changed from "should we use the system" to "should we lease or buy it?" Given the pace of technological change, did it make sense to buy the system outright—or lease it? Sokol explained that this is a standard issue faced by the computer industry as well as training departments. "It's a paradox," he said. "You can't afford to wait, and yet there's an inherent risk in buying equipment outright." Moreover, Sokol explained that CBT wasn't for all learners. Users with little computer experience, for example, needed more direct support. Scheduling the classroom site and the requisite facilitator support were complex administrative issues. Other questions the team examined related to evaluation—how to determine if learning actually took place; for example, are on-line, computer-generated evaluation tests useful?

And for the future the issue of portability—the use of the system at the desktop or at home—will be addressed. "We've come a long way from early programmed instruction which was simply a series of branching screens of text," said Sokol. "We moved on to graphics and colors to display information, then interactive software, and now multimedia applications. The challenge is to move from computer-based training to computer-based support."[15]

Illustration 8-5 CBT at PHH Vehicle Management Services.

Source: Interview with Marc Sokol, Director, Human Resource Development for PHH Fleet America, circa April, 1994.

Evaluating Mediated Instruction

The use of mediated instruction in no way lessens the necessity of appropriate evaluation. Mediated training programs are planned learning experiences, and everyone involved in the learning will want feedback on the program. Evaluation of learning that results from mediated instruction differs little from the evaluation of traditional instruction. To expand the evaluation framework provided in Chapter 3—process, learning, reaction, job behavior, and organizational results—simply requires rethinking some of the questions.

For example, the training department might want to ask trainees process questions that could include the learner's satisfaction with his or her role in the determination of learning objectives and the adequacy of the implementation plan. Reaction questions would gauge the learner's evaluation of the preparation and organization of materials, the study guide, and the expected pace of learning. Learning outcomes could be reviewed by any method appropriate to traditional methods such as tests, simulations, or role plays.

In fact, if the purpose of evaluation is feedback to the learner, mediated instruction materials can afford the user instantaneous information regarding subject mastery. Like evaluating live training efforts, evaluating mediated training means matching course objectives with measures of actual outcomes. This means choosing evaluation methods that will result in information that is useful to training professionals, trainees, line managers, and organizational decision makers.

Summary

Mediated instruction is learning experiences where instruction is offered through print, audio, video, or computer-based materials rather than via a live instructor. Mediated instruction fits well with what we know about how adults learn and can be an effective instructional strategy. Mediated instruction is often used when the learning audience has a wide range of experiences and/or abilities; when it is spread out geographically; when only a small number of individuals need training; or when repetitive, ongoing learning needs to take place.

This chapter took a developmental approach to describing mediated methods, starting with paper-based books and tutorials, moving on to audio and videotapes, and concluding with computer supported learning resources and performance support systems. These methods build on each other and are often used in combination.

Audio and videotapes are mediated instruction tools when they are supported with additional learning resources, such as study guides, books, programmed instruction, tutorials, and manuals. Computer-based instruction (CBT) is an

umbrella term for computer-assisted instruction (CAI); computer-managed instruction (CMI); interactive multimedia systems; computer supported learning resources (CSLR); and performance support systems. All of these tools require that learners be active participants in their learning experiences. CAI tutorials include tutorials, drill and practice, instructional games, modeling, simulations, and problem solving exercises. When CAI is added to a system that also includes capabilities of assessment, record keeping, and testing, the resultant system is called computer-managed instruction (CMI). Interactive multimedia systems combine CAI with text, graphics, animation, sound, and video and exist in several different formats: interactive videotape, laser disk, CD-ROM, and CD-I. Because of its storage capability and because it overcomes the access limitations of linear videotape and the cost limitations of laser disks, CD-ROM is expected to be the integrating medium for multimedia systems.

Computer-supported learning resources (CSLR) encompass computer capabilities that ease the communication, retrieval, examination, and manipulation of data. These are resources that can be accessed at the time support is needed. The CSLR category includes help desks and online help; expert systems, hypermedia, and databases. Help desks offer centralized tutoring from a person at the other end of a telephone line, and online help is built directly into a software applications package to be available to the user at the touch of a key. An expert system is a computer program that is developed by a subject-matter expert and a knowledge engineer, and includes a user interface that allows the user to systematically ask questions of that knowledge. Sophisticated data bases are compilations of unstructured information that can be easily searched. Hypermedia is a term that describes searching capabilities that are independent of the sequential flow of text. Hypermedia systems allow the user more control over "what's next." Performance support systems can include the entire gamut of instructional media discussed in this chapter, and provide just-in-time learning, often reducing the need for learning.

Producing mediated materials from scratch is a sophisticated, costly, and time-consuming activity. To develop mediated materials often requires teams of subject-matter experts, artists, technicians, writers, and programmers.

Delivering mediated instruction requires planning on the part of the training staff. Determining the location of training, planning for the delivery and maintenance of needed learning materials, and creating mechanisms for support and feedback are important considerations. Evaluation of outcomes is conducted much the same way as for live instruction. The instructor, of course, must also redefine his/her role from that of a live deliverer of instruction to a coach, one who stands behind the scenes assisting the learner as a manager of instruction rather than as a live teacher. *The focus of instruction—whether mediated or live—is always on learning.*

Questions

1. With the training cycle as a framework, summarize the major differences between live and mediated instruction.
2. Paper-based mediated instruction methods remain popular despite the widespread availability of computer-based instruction. Why?
3. Re-read Illustration 8-2, Student-Prepared Videotapes. What principles of adult learning are inherent in this case?
4. Why is CD-ROM considered an integrative media for text, graphics, animation, sound, and video?
5. Discuss the implications of the following statement: performance support systems actually decrease the need for learning.
6. List learning and support strategies commonly used to ensure a successful mediated instruction implementation.

Applications

1. Identify a book of interest from the *New York Times's* "Nonfiction Best Seller List" that would be appropriate reading for an executive development program.

    a. Develop a study guide for the book—exercises that would help a reader retain and learn the content.

    OR

    b. Summarize the key points of the book on an audiotape. Listen to your tape; what did you learn about the book; what did you learn about creating an audiotape?

2. Interview someone at your institution or school who has developed interactive multimedia instructional systems. Ask them to describe the content of one course they developed. Also ask how the course was implemented and if they have any evaluation data available. See if they can provide time and cost estimates for their project. Report your findings back to your classmates.
3. Use a tutorial software program for a microcomputer applications package that you have never used before (most popular programs include one). How

helpful was the package? Summarize any advice you would offer the tutorial developer.

4. Using data from the PHH VMS case, write a memo to employees describing the new system and why they should sign up for courses.

Additional Readings

Durocher, Joseph F. "Beat the Training Challenge with Interactive Videodiscs," *The Cornell Hotel and Restaurant Administration Quarterly*, May 1990, pp. 47-51.

Professor Durocher explains that since most training is one-on-one, interactive video systems (IVD) can relieve the pressure on existing employees for training and at the same time allow managers to monitor learning progress. He describes IVDs, offers examples of their use in the hotel and restaurant industry, and outlines the entire IVD development process.

Technology in the Classroom, National Business Education Yearbook, No. 33, 1995, Nancy J. Groneman, editor, Reston, VA: NBEA, 162 pp.

In the preface to this yearbook, editor Nancy Groneman explains that this yearbook is designed for use by computer novices and experts, and includes basic definitions of new technology and examples of its use. Divided into three main parts, individual chapters address issues related to curriculum development, technology as a teaching tool, and criteria for selecting and using technology.

Hiemstra, Roger, and Burton Sisco. *Individualizing Instruction*. San Francisco: Jossey-Bass, Inc., 1990, 304 pp.

This book is a guide for planning, organization, and implementing individualized instruction for adults. Vignettes based on real-life situations demonstrate adult learning principles.

Long, Douglas G. *Learner Managed Learning*. New York: St. Martin's Press, 1990, 173 pp.

Examples and case studies form the basis for describing the impact of learner managed learning. Of particular interest to readers of this text is Chapter 9, "Learner Managed Learning in a Corporate Context," which details the career of a training specialist.

Piskurich, George. "Developing Self Directed Learning," *Training and Development*, March 1994, Vol. 48, No. 3, pp. 30-36.

This article is a primer on self-directed learning, including a process for developing, implementing, and evaluating effective self-directed learning packages.

Reynolds, Angus, and Ronald H. Anderson, *Selecting and Developing Media for Instruction*. New York: Van Nostrand Reinhold, Third Edition, 1992, 270 pp.

This comprehensive book can serve as a job aid or reference guide for anyone involved with choosing media or planning the development of media for instructional purposes.

Endnotes

1. Lipson, Joseph. "Learning by Distance: How Effective?" Presentation delivered to the Regional Forum on Distance Learning, Austin, Texas, April 5, 1984.

2. Strunk, William Jr., and E. B. White. The Elements of Style. Third Edition. New York: Macmillan, 1987.

3. Compliments of Mentor Media. Reprinted with permission.

4. Kulik, J., C. Kulik, and P. Cohen. "Effectiveness of Computer-based College Teaching: A Meta-analysis of Findings," Review of Educational Research, 1980, Vol. 50, pp. 525-544.

5. Compliments of United Parcel Service; reprinted with permission.

6. Reynolds, Angus, and Ronald H. Anderson. Selecting and Developing Media for Instruction. New York: Von Nostrand Reinhold, 1992, p. 155.

7. Regan, Elizabeth A., and Bridget N. O'Connor. Automating the Office: Office Systems and End-user Computing. New York: Macmillan, 1989, p. 251.

8. Stewart, Thomas A. "Intellectual Capital," Fortune. October 3, 1994, p. 70.

9. Ibid.

10. Ibid.

11. Regan, Elizabeth. "Integrated Performance Support: A New Concept for a New Era," in the Proceedings of the Twelfth Annual Office Systems Research Conference, Springfield, Missouri: Office Systems Research Association, 1993, p. 3.

12. O'Connor, Bridget N. "Technical Training Methods," Chapter 5, 1995 NBEA Yearbook, Nancy J. Groneman, editor, NBEA: Reston, Virginia, 1995, p. 48.

13. Quinn, Herb. "The Trouble with Glitz," DataTraining. April, 1991, p. 25.

14. Ibid., p. 28.

Part Five

Additional Job Skills for Trainers (Tools of the Trade)

Prologue to Part V

Orville and Wilbur Wright were successful because they were systems thinkers. They alone identified three interconnected facts of flight demonstrated by birds without motors. Before you could hang wings on a bicycle and ride it through the sky, you had to figure out how to:

1. *Get it into the air.*
2. *Keep it in the air.*
3. *Make it go where you want.*[1]

Part V is all about creating an environment in which training efforts can fly. Even the best learning solution will flounder if it is not described in such a way that decision makers have enough information on which to determine its worth (get it into the air). Even the best learning solution will fail if it is not administered appropriately—for example, learning materials must arrive on time and participants should be able to hear a presenter (keep it in the air). Even the best learning solution will be useless if its outcomes are not consistent with the "way we work around here" and therefore resisted by learners or their superiors (make it go where you want). This systems approach forces you to consider that there are many things inside and outside the learning solution itself that must be considered.

Therefore, in addition to being a purveyor of sound learning practices, the training professional must also be able to understand the entire organizational system to communicate how training solutions address a business need; manage the process by which solutions are implemented, and understand how he or she can participate as a full functioning member of the organizational management team.

Systems thinking also includes the concept of *equifinality*, which is another way of saying there is more than one way to do anything. The chapters that follow are not foolproof templates for problem solving. Rather, they can be considered a tool kit of ideas and suggestions that may fit some circumstances perfectly; others

partially; some not at all. Part V is all about the effective use of a communications and leadership tool kit: writing, speaking, delegating, organizing, and facilitating. How a training professional gets the learning program into the air, keeps it there, and ensures it does what it is supposed to do depends on many factors that are related to the individual, the current circumstances, and the organization that is being served.

The training *proposal* is a comprehensive planning document. It includes an analysis of the needs assessment data and shows how the training solution it offers fills a performance gap or organizational need. Chapter 9, "The Training Proposal: Putting Plans Into Writing," suggests structural outlines, writing strategies, and cost/benefit analysis techniques that are frequently used in successful proposals. The training proposal itself must offer decision makers the information they need to make the "go or no-go" decision regarding whether or not the training program is feasible.

Chapter 10, "Training Administration," provides a menu of suggestions for operating a training department and administering the logistics of training delivery. Good administrative support includes ensuring that program descriptions are available, that participant registration is easy and efficient, that learning materials arrive on time, that the physical facility is set up properly, and that any equipment used is in good working order. This chapter includes checklists that can be adapted to many situations. This chapter also includes a sample program costing worksheet that can help establish budgets.

Part V concludes by taking you back to Chapter 1, where training was described as all about learning, and learning as all about changes in knowledge, skills, or attitudes. Change, and therefore learning, is a constant in all organizations. Chapter 11, "The Trainer as Change Agent," begins with a simple change model—innovation, infusion, assimilation—and shows how the training professional contributes expertise to a problem solving processes. To provide a framework for understanding the concept of change, the chapter includes excerpts from the classic work of Everett Rogers and Kurt Lewin, and current perspectives from Peter Senge. The chapter includes a sampling of techniques for facilitating group processes and emphasizes the increasingly important role of the trainer as a business partner.

To maintain control, the Wright brothers invented their own wing, elevator, rudder, engine, and propeller.[2] They had to think how each part of the system affected the plane's ability to fly. They had to go beyond solving isolated sets of problems. The training professional, likewise, must understand how important it is that the right (no pun intended) things are trained for in the right way, at the right time, and in the right priority order. Leadership for the training function requires an understanding that organizational need is the push for training interventions and that

organizations are complex entities. Ensuring that training solutions are understood, administered appropriately, and are useful interventions requires teamwork and an understanding that training is a business function—which in turn requires an understanding of the entire organizational system, not simply or solely the training enterprise.

1. Weisbord, Marvin R. *Productive Workplaces.* San Francisco: Jossey-Bass, Inc., 1988, p. 162.

2. Ibid., p. 163.

Chapter Nine

The Training Proposal: Putting Plans into Writing

Highlights

- Perspectives on the content of training proposals
- Suggestions for training proposal design and structure
- Strategies to determine training costs and benefits
- Activities to ensure a winning proposal presentation

What is a Training Proposal?

Training providers, whether internal or external to the organization, must communicate their training plans to decision makers. The document that describes the work to be done is the *proposal.* A proposal is a request for action. Its purpose is to persuade decision makers that a need exists for action, and that the action described in the document is the best response to that need. Preparing a proposal requires skill in writing thoroughly and convincingly. It will also benefit from the use of sharp creative desktop publishing skills. Occasionally, the proposal writer may

be asked to present the proposal in person to a decision-making group; in this case, effective oral presentation skills are critical.

The training proposal will most likely compete with other proposals. External competition includes other vendors and consultants; internal competition includes the needs of the organization to allocate its resources and funds. The task, therefore, is to convince organizational decision makers that the need that has surfaced deserves priority in their decision making and that the proposal's solution provides the best solution to the need. The proposal must communicate ideas and plans with such eloquence that it will rise to the top of possible solutions.

Communicating Training Plans

The first prerequisite in planning a proposal is to have a very clear idea of the organization's training needs, which were discussed in detail in Chapter 2. The second prerequisite is to have a very clear idea of the individual(s) who will be reading the proposal, which was discussed in Chapter 3. Sometimes written proposals must adhere to strict corporate guidelines. Federal agencies, for example, often provide a boilerplate format that makes it easy for decision makers to compare proposals. Other times, proposal writers use a format that is appropriate to the problem at hand and indicates the individuality of the writer and/or the training provider's organization. Determining an approach to proposal writing is, therefore, dependent upon the organization to be served and the problem to be addressed. Writing the first proposal will be much more difficult than the hundredth one; writing is a skill that is honed with practice and feedback. One learns as much from proposals that work as well as from those that are not accepted.

Following is a list of the components of most proposals. Examples of a full proposal and an abbreviated proposal appears in an appendix at the end of this chapter. Note that the list follows the four phases of the training cycle—assessment, design, implementation, and evaluation. Not every training proposal will have all of these components, and they may not be in this sequence. Many winning proposals are brief—only three to five pages long. One rule of thumb is that senior executives usually want a more summary view with fewer details, than do middle managers. Another rule of thumb is that the larger the scope of the project and more expensive the solution, the more detailed the proposal needs to be. Therefore, the best rule is to know your audience, your purpose, your project . . . and write accordingly. Following is a discussion of proposal components. The list suggests both content and sequence.

- Title Page
- Table of Contents

- Executive Summary
- Background of the Problem*
- Analysis of the Problem*
- Target Population*
- Rationale and Goals of the Proposed Training
- Learning Objectives and Topics*
- Evaluation Strategies
- Overview of the Training Solution
- Program Outline*
- Training Resources Required
- Capabilities of the Training Providers
- Development Schedule
- Delivery Schedule
- Costs
- Projected Benefits
- Appendix

Title Page

The title page should include, of course, a title descriptive of the training proposal. Avoid giving training programs names that could well depict the titles of college courses, since such course titles tend to be very general in nature. A proposal for a business writing course designed to help managers prepare performance reports, for example, could be called "Writing Techniques for Preparing Performance Reports," but should not be entitled "Fundamentals of Business Writing." The title page should also include the name of the proposal writer and a means to contact him/her: address, telephone number, facsimile number and the like.

Table of Contents

A table of contents is generally provided for lengthy and/or detailed proposals but may be omitted for shorter ones. A complete and accurate table of contents is important for lengthy proposals to give the reader a quick overview of what is to come and also serves as an easy reference to the various sections.

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*These elements may be combined or merged under the subhead indicated if a shorter proposal is desired.

Executive Summary

Time is critical to everyone; therefore, a tightly-written *Executive Summary* should be considered for all proposals. A sample of an executive summary follows:

> *Newly hired inspection employees at the Xanadu Corporation have a much higher product rejection rate than established employees. The high rejection rate costs this corporation a considerable amount of money as the products rejected are often well within the acceptability range.*
>
> *A needs analysis, consisting of employee interviews and observations of both groups, indicates that new hires are employing acceptance standards different from those of their experienced counterparts. A training program, consisting of product information lecturettes, role plays, and small group discussions is recommended to make sure new hires learn the correct standards.*

Background of the Problem

The background of the problem should show how the proposal was initiated, who performed the needs assessment, and what procedures were involved in the process. This section serves to put the proposal into the context of the business problem to be solved. One way to make this connection is to list the names of stakeholders who initially raised the issues or who participated in the needs assessment process. An example of this section follows:

> *The trademark of this business is quality. New hires are rejecting too many acceptable products. They seem to be overly cautious in their goal to maintain the highest quality control standards. Thus, excessive numbers of acceptable machine tools are rejected. New hires' judgment calls err on the side of caution rather than on the side of acceptability.*

Analysis of the Problem

What is the problem to be addressed? In the analysis section, describe why the training program is needed—how the training solution bridges the gap between an identified problem and the learning required. Show how the training solution solves a specific business problem. If the needs assessment is complete, data from the results will show an understanding of the organization, the individuals to be trained, and the training task(s). If the needs assessment has not been conducted, this section could outline how the problem was discovered, by whom, and when. In *very brief* terms, the writer should describe the needs assessment process—the instruments that were developed, the people who were interviewed or surveyed, and data that were collected. Providing the results of these assessment processes shows how a training solution matches a learning need. Thus, an analysis describes the impact of the identified performance gap on the business. Perhaps customers need to be served more efficiently and effectively by sales staff. Managers may need to

manage more flexibly as the organization flattens. Insurance agents may need a new, more efficient way to track prospects. The secretarial staff may need better customer relations skills. The number of accidents in a certain area is related to an increasing number of reported back problems.

In other words, in this section the problem that will be solved by the proposed training is addressed. Oftentimes, the training proposal writer (or his/her group) conducted the needs analysis and is proposing a solution. However, sometimes providers may be using needs analysis data from a *request for proposal* (RFP), which had outlined the identified problem and solicited the proposal. Either way, describing the problem is what this section is all about. The length and comprehensiveness of the analysis component is situation-specific. An excerpt of a narrative of this section follows:

> *Interviews were conducted with three (3) first-line supervisors in the Quality Control Department (here their names and/or titles would be added), to explore the perceived gap between the quality of machine parts produced and rejection rates from newly-hired employees. Observations were conducted of both new and long-time employees over a two day period, and our observation checklists support the perception that the newly-hired are being excessively cautious. A higher percentage of rejections came from the new hires than from the established group, which suggests that different standards are being applied by these two groups.*

Target Population

Referring back to the needs assessment bull's-eye, Figure 2-2, the target population reflects those individuals in the center of the target who are to be served by training; those who will directly benefit from participation in the training program. Examples of target populations might include newly-promoted supervisors in a specific department, all local-area network managers, or all production managers, or even everyone in the organization. The target population section should describe as accurately as possible the number of potential trainees and their functions. A sample narrative follows:

> *The target population to be addressed in this proposed training activity include all supervisors in the Quality Control Department. All should receive training at the same time to make best use of their experiences.*

Rationale and Goals of the Proposed Training

Rationale and goals are the heart of the training proposal. This section should be tied back to the analysis of the problem and the impact of the problem on the organization. Here, the writer shows why the training is needed, the goals for the proposed training and its anticipated outcomes. This section should answer the question: "What is the purpose of the proposed training and what are the anticipated benefits to be derived from it?" This section presents the scope of the

proposed training *content*. An illustration might include an overview of the course goals and objectives, target blocks for specific training, and assumed qualifications of the participants to undertake the proposed training. A sample narrative follows:

> *The needs assessment conducted (date/location), indicated that additional training is needed for new hires (less than three months). These new hires have been responsible for excessive recalls. The proposed training will focus on establishing the best way to install* ***and check*** *to ensure complete compliance with the firm's existing standards. Since a number of new hires are Spanish-speaking, training staff will be proficient in both English and Spanish.*
>
> *Course goals and objectives include a review of the overall wiring installation procedures used for the product as well as specific and newly-developed methods for update modifications. New manuals will be developed, color-coded, and pilot tested for this audience. Anticipated outcomes will include workers meeting acceptable standards.*

Learning Objectives and Topics

In describing the training program, it is useful to match learning objectives with training program topics. These learning objectives can be stated either in broad, general terms or may be described in performance terms. As described in Chapter 5, for cognitive and skill-oriented outcomes, performance items are preferred; for attitude change or the affective domain, more general terms are acceptable. Examples follow of the first three components of a training solution to address computer skill development from the long proposal that appears at the end of this chapter.

Skill Block 1—Document Management

Upon Completion of Skill Block 1, participants will be able to complete the following tasks with 100% accuracy

- Create directories
- Move and copy files from different directories
- Save files on the network
- Transfer files to distant locations

Skill Block 2—Advanced Function and What-if Analysis

Upon Completion of Skill Block 2, participants will be able to complete the following tasks with 100% accuracy

- Use the IF and VLOOKUP functions
- Use various financial functions including PMT, IRR, NVP, and FV
- Use data tables
- Use the scenario manager
- Use goal seek
- Create pivot tables

Skill Block 3—Graphing Worksheet Data

Upon Completion of Skill Block 3, participants will be able to complete the following tasks with 100% accuracy

- Chart continuous and non-continuous worksheet data
- Create a chart using the ChartPrep function
- Create a chart in a separate document
- Change the chart type
- Change formatting options
- Add text to a chart

With the framework provided by these learning objectives, the list of specific topics to be covered can be presented. Learning objectives always drive the topics; it is not the other way around.

Evaluation Strategies

Evaluation strategies outline how the organization will know that the training has achieved its designed outcomes. Training professionals, as business partners, are accountable for results, and in this section the writer should describe how the planned learning objectives and consequent business results are to be measured. The entire gamut of evaluation options described in Chapter 3 are available—participant reactions, tests, attitude questionnaires, observations, performance reports, and the like. This section should also indicate the follow-up activities that will be used to determine if the training met the goals that learning set out to achieve. By presenting the goals *and* the evaluation strategies sequentially, management can see both the starting and ending points for the proposed training intervention. In some instances, evaluation at the end of the training program may be appropriate; however, for others, evaluation may be continued over a period of weeks or even months. An example of this might show the following:

Goals: To introduce new product line X to the sales staff—specifically ensuring that learners leave with information that:

- ➢ describes the product line
- ➢ shows how the line will mesh with existing products currently in use
- ➢ identifies strengths and weaknesses of line and individual units
- ➢ enforces selling points and objection responses
- ➢ details implementation strategies and methods

Evaluation of Training: Effectiveness of training will be measured by:

- checklists used by trainers observing role plays with members of sales staff and supervisors/managers at the completion of the training peer evaluation of group presentations on new product lines
- trainees' self-evaluations of three videotaped sales demonstrations during the training
- a review of trainees' performance reports three and six months after training

Overview of the Training Solution

The overview broadly describes the training solution to the identified problem. This description should include the types of learning activities proposed, where they will take place, and who will be involved. Describing the nature and type of training that will occur over a designated period of time provides the decision maker(s) with a picture of the training experience. Examples of this might look like this:

> *The two-day sales presentation skills workshop will include group presentations and role plays, and culminate with trainees developing videotaped sales presentations.*

or

> *The hands-on safety training program will include the operation and safety features of the new equipment, Model 43, by use of a series of simulations and models. The program will take approximately two hours.*

or

> *Two half-day sessions will include the extensive use of role-play in conflict resolution scenarios. Scenarios will depict common stress points between peers as well as between staff members and supervisors.*

Program Outline

The program outline simply consists of the topics—in a logical order—that detail the content, organization, and sequence of the proposed training program. The outline also provides the basis for a *Leader's Guide.* The program outline must be as complete as possible. An example of a program outline to train new air conditioning installers might include the following:

1. *Description* of air-conditioning unit with full and cut-away views
2. *Identification* of major components and functions
3. *Overview* of installation process
4. *Presentation* of installation procedures—sequential elements and steps from "make-ready" to clean up
5. *Description* of safety considerations
6. *Illustration* of check-out operation
7. *Examples* of adjustment and tuning activities
8. *Description* of customer materials and service options
9. *Post-installation* self-evaluation

Training Resources Required

With the training actions described, identifying the materials needed is the next step. These resources will include instructional materials, hardware and software, and personnel. Any prework to be completed by participants before the training event also should be described here as well as a list of handouts and other related materials needed.

- ➢ Instructional materials—prework, binders, leader guides, training manuals, handouts, models, transparencies, flipcharts, white boards, reference guides
- ➢ Hardware and software—computers, application packages, video cameras, multi-media setups
- ➢ Personnel—support personnel required for the assessment, design, implementation, and evaluation stages

Capabilities of the Training Providers

While describing oneself may be unnecessary if the writer is an internal training consultant, this section is an essential component when the proposal is in competition for a training contract. This section describes an individual trainer's or an organization's capacity to produce an effective training solution and to deliver it in a timely manner. It includes individual qualifications and perhaps references of other similar projects completed as well as a list of satisfied clients. For example, if a videotape will need to be developed as part of the training solution, what evidence exists that the writer can do this? How many staff members can be dedicated to this project? Does the provider have access to special facilities or equipment (e.g., computers, video systems, special software)? Key to describing the capacity to deliver is matching capabilities with the needs identified earlier. A brief

description may be all that is necessary for a short proposal. However, for a more complex, expensive, or strategic training effort, training consultant résumés should be appended. A sample qualification narrative follows:

> *The proposed training will be developed and delivered by an organization with over 30 years of extensive experience in production and quality control areas. With headquarters in Chicago and offices in eleven major metropolitan areas throughout the U.S., Canada, and Mexico, our 220 trainers and support staff speak many languages. All trainers are required to hold a minimum of a four-year business degree, and most hold graduate degrees in their specialty. All trainers are fully certified through our rigorous development process. Satisfied clients include General Electric, IBM, and PepsiCo.*

Development Schedule

The development schedule outlines the sequence of planning events, in a step-by-step process covering blocks of time, that describes what needs to be done, when it will be done, how long it will take, and in what sequence. The development schedule takes the form of a Gantt Chart such as one shown in Figure 9-I.

The development schedule outlines the stages necessary to complete specific and separate phases of the needs assessment and design of the training project and provides an overview of the specific tasks to be done. It shows which tasks will be done sequentially and which may be done at the same time as another activity. Figure 9-I numbers the major tasks in a sample schedule and plots them according to when they should begin and end. The development schedule charts the most expeditious plan—the critical path—to design the training program. Task 1, for example, is the needs assessment analysis; task 2, the client review, is a detailed discussion with decision-makers or the target audience. Note the overlap with other tasks. The task list continues, culminating with the final project ready for pilot testing.

Development Schedule (January through March)

Task	Period 1	Period 2	Period 3	Period 4
1.	Needs assessment, interviews, and observations			
2.		Client review		
3.		Validation of needs assessment (and possible extension)		
4.		Program development		
5.		Leader's Guide draft		
6.		Instructor preparation for pilots		

Figure 9-I Training development schedule

Delivery Schedule

A second schedule to be developed is for testing the materials and procedures designed earlier. *Delivery* outlines when the pilot(s) will occur, when any needed revisions will be done, and when the product should be available for roll-out for the entire organization.

Figure 9-2 is a sample delivery schedule. The schedule may cover a period as short as a few days, or it may cover a year or more depending on the nature and strategic importance of the project. The delivery schedule, thus, provides a time-line of when major tests and revisions will be done and when the project is ready for full implementation. Note that if a Leader's Guide was not developed earlier, it can be done as part of delivery. Watching a skilled trainer in pilot test situations can be an excellent way to ensure that a Leader's Guide provides useful teaching strategies and suggestions for easy transition from topic to topic.

Delivery Schedule

	Quarter 1 Jan-March	Quarter 2 Apr-June	Quarter 3 July-Sept	Quarter 4 Oct-Dec	Available January 1
Program Title	**TFX Training**				
	Materials development period	Pilot 1 revised	Pilot 2 revised	Pilot 3 revised	Rollout
			Leader's Guide developed/revised		

Figure 9-2 Delivery schedule

Costs

The cost section of the training proposal details the expenses involved in doing what is proposed. Because proposals are written to sell decision makers on a proposed solution to an identified problem, it is extremely important that costs be fully explained and well documented. Training proposals compete for the organization's scarce resources. They must provide sound estimates of costs.

The two sample proposals included with this chapter provide very different approaches to providing cost figures. While the shorter proposal gives broad categories of costs, the longer proposal provides a detailed description of cost categories.

Projected Benefits

A training program is designed to close a learning gap, performance gap, or to remedy a lack of knowledge. Rather than leave expected gains to speculation,

the benefits accruing to the organization should be identified. While many productivity benefits may be easily documented and can help to cost justify the expenses of the training program, there are a number of "soft" benefits that are not as easy to identify. Soft benefits include measures of enhanced morale and greater team spirit. Typically, however, benefits fall into one of three categories:

- Productivity improvements: individuals can do more
- Quality improvements: individuals do what they do better and products or services will be enhanced
- Workplace improvements: the workplace environment supports individuals and their work better, thus enhancing the overall quality of work life (QWL).

While difficult to do, it is useful to place hard dollar figures on all the soft benefits identified. Doing so allows the proposal writer to create a *return on investment* (ROI) figure that will be very important to the individual charged with making the go/no-go decision regarding the proposal.

ROI is a ratio that represents the anticipated value the training program is expected to offer. The formula used for ROI is the projected lifetime benefits minus the projected lifetime costs divided by the projected lifetime costs. The formula can be used to cost justify one training solution, or used to compare various solutions.

$$ROI = \frac{\textit{Projected Lifetime Benefits} - \textit{Projected Lifetime Costs}}{\textit{Projected Lifetime Costs}}$$

For example:

$$\frac{\textit{Projected Lifetime Benefits} - \textit{Cost of Delivery}}{\textit{Projected Lifetime Cost of Delivery}} \qquad \frac{\$300,000 - \$100,000}{\$100,000}$$

Results equal a 2:1 ratio or, if multiplied by 100, equal a 200 percent return on the training investment.

Appendix

An appendix may include statistical data, or sample data collection instrument(s), trainer résumés, reference lists, and/or any other supporting materials that may aid management in making an informed (and favorable!) decision on your behalf.

Other Proposal Designs

Keep in mind that the foregoing list—and its sequencing—is only one model. For example, in certain circumstances it may be more logical to describe the capabilities of training providers at the end, allowing the proposal itself to support the provider's qualifications. When it is desirable to get the reader's attention quickly, the projected benefits may be the first item discussed.

Proposal Presentation

The most carefully crafted proposal in the world will never gain approval unless its presentation is professional looking. This means, first of all, that the proposed training fits the identified problem. However, it is also very important that the document itself be mechanically perfect, grammatically correct, and attractive. Layout and design features must be carefully considered and any graphics involved must be skillfully used. Knowing the reader and presenting a quality document contributes to a positive reaction.

Knowing Your Audience

Depending on the magnitude of the proposal, readers will probably consist of middle managers for operational proposals and more senior management for informational or strategic training proposals. This, of course, may differ depending on the importance and timeliness of the proposed training. What is true, however, is that middle managers will probably dwell on the specifics while higher levels will concentrate on larger issues of policy and strategy.

Presenting the Proposal Live

In most cases, the written proposal will probably be evaluated on the basis of the document itself. In other cases, the writer may have an opportunity to present the proposal live. In this situation, the trainer should practice so that the presentation will fit within the time allotted for it, with time for questions and interruptions. Some presentations may be allotted 30–45 minutes with about 15 minutes for questions, while others may be given only 5–10 minutes. Everything takes longer than one thinks it will, so careful planning is essential. Being prompt, outlining and developing the major issues, and highlighting key elements in the proposal will focus attention on the primary points of the meeting. As mentioned earlier, some presentations will be more formal than others, and this will likely depend on the experience the decision-makers and the proposal writers have had with each other. In some cases a training manager may even ask for the presentation of a unit of instruction to demonstrate an ability to deliver instruction or a videotape that can be viewed at the convenience of the decision-making panel members. In all cases, the proposal presenter should be well prepared, efficient, and precise.

Summary

This chapter has described the training proposal—its function, content, and organization. The proposal should communicate your plans and match the organization's business objectives and other related training activities. The proposal should stem from the analysis of the needs assessment activities, include a rationale and description of the training program to be developed, and outline the training program goals within the context of the organization. It should clearly address the skills and knowledge gaps identified and how the proposal will fill these gaps.

Training proposals should identify the scope of the project to be undertaken and describe the training audience to be involved. Specific learning objectives and major topics should be included to meet these objectives. Proposals should also describe the resources that will be needed to provide the training. Proposed time frames for both development and delivery are useful and should include their sequencing and time required.

Training costs and benefits are critical components. Not only are these financial numbers carefully scrutinized by organizational decision makers but how they are determined will also be questioned. Putting dollar figures on benefits is difficult, but when benefit figures and cost figures are used to measure return on investment, the results provide an extremely powerful argument for saying "yes" to the proposed training solution.

The physical document—the proposal itself—should be clear, concise, and attractive. Knowing what readers expect dictates the length and format of the document. On occasion, a proposal developer may do a live presentation of the proposal, and the skill set for effective oral presentations must be followed. Materials that are well presented—in writing and/or in an oral presentation—have a competitive edge.

Questions

1. Of the many elements of a training proposal, which do you consider to be the three *most* critical ones? Why?

2. Writing effective training proposals is both an art and a science. What are some rules of thumb to consider when beginning the writing process?

3. Two timetables were described in this chapter: a Delivery Schedule and a Training Development Schedule. What tools exist to help the proposal writer present these figures?

4. What is meant by return on investment (ROI)? Why are ROI figures difficult to develop?

5. What advice do you have for the individual who is to present a proposal live to a decision team? Offer specific suggestions for an effective presentation.

Applications

1. Draft a sample proposal for delivering training on the following topic with members of your class as the learners: Developing and writing a training proposal. Assume your instructor will be the management decision-maker. Limit your written proposal to three (3) pages.

2. Make a brief, 5-minute oral presentation to a small group of classmates on the proposal identified above. If possible, have someone in your group videotape the presentation. By yourself, critique the presentation. Make a list of "what I did well" and "what I need to improve."

Additional Readings

Frantzreb, R.B, ed. *Training and Development Yearbook 1991.* Englewood Cliffs, N.J.: Prentice-Hall, 1991, 420 pp.

This large reference yearbook contains eight chapters with more than 70 articles and hundreds of abstracts providing guidance for training professionals. Especially helpful is "The Training Almanac," a set of six directories of names, addresses, prices, and references.

Nilson, C. *Training Program Workbook and Kit.* Englewood Cliffs, N.J.: Prentice-Hall, 1989, 430 pp.

A major volume of worksheets hints, checklists, and guides for the training professional at every level—designer, instructor, manager.

This how-to workbook provides guidance for everyone in training and is a reference for every training library.

Zemke, R., L. Standke, and P. Jones, eds. *Designing and Delivering Cost-Effective Training—and Measuring the Results.* Minneapolis, Minn.: Training Books, 1981, 1983, 415 pp.

This 11-chapter reference book contains the best articles from 250 issues of *Training* magazine since 1964, featuring the best ". . . ideas on the design, development, and evaluation of cost-effective training." While this book is a bit dated, the contents are as current today as they were in 1983.

Appendix A: Long Training Proposal

Second-Year Analyst Training Program
by
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November, 199X

Second-Year Analyst Training Program

Executive Summary

Interviews with current analysts, their supervisors, and a detailed job analysis resulted in an identification of needed training for second year analysts. The proposed training solution targets specific PC-related skills that analysts need to learn. This proposal overviews specific hands-on training strategies that would improve the productivity of analysts by improving their effectiveness and efficiency in their job tasks and roles.

Any questions?

If you have any questions regarding the content of this document or you need clarification, please contact any of the design specialists at their daytime telephone numbers, indicated below.

Kim Heesuek 555-1234

Shannon Lally 555-5555

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Roger Lord. 555-9865

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Background of the Problem

In October, Terry Patrick the Director of Training at Home Bank, asked the design specialists at Competitive Edge to design a PC training program for the second year analysts in the Investment Banking Department. In this document we will describe the findings of our needs assessment and a proposed training program and implementation plan.

Analysis of the Problem

When designing a training program, a needs assessment is the first step in the development. In this section we will discuss the components and the tools used in the needs assessment. Later, we will discuss the proposed training solution.

The Components of the Needs Assessment

In gathering information about the second year analysts' training needs, we looked at several components including:

a. Job tasks required of analysts
b. Second-year analysts' current skills and characteristics

The Tools of the Needs Assessment

To gather information about the second-year analysts' job tasks and current skills and characteristics, we used the following methods:

c. Interviews with second-year analysts
d. Interviews with Terry Patrick, Director of Training
e. Computer literacy pretests

Investment Banking's Function and Structure

To begin the needs assessment we first looked at the structure and functions of Investment Banking and the analysts' positions in the Department. The Investment Banking Department at Home Bank is comprised of 800 people. Of this number, half are professionals and the other half are support staff. The professionals are divided into 4 levels, each managing a particular function in the marketing and maintenance of Investment Banking clients.

The typical Investment Banking Professional and their qualifications and function are outlined in the following table with the targeted audience last.

Second-Year Analysts' Skills and Characteristics

After analyzing the data from the interviews with Terry Patrick and several second-year analysts, we found that the analysts:

a. spend 50 percent of time using a PC, and are PC literate
b. nearly all are 23–26 years old, bright, enthusiastic, and well educated

Title	Function	Qualifications	# of Employees
Managing Director	Building and maintaining client relationships, new business acquisition and the overseeing of the administrative functions of a functional group.	Seasoned employees who have been at the firm for many years who have set new standards for performance.	60
Vice President	Developing and marketing financial strategies to current and prospective clients.	Employees who have been at the firm a few years and who have demonstrated outstanding potential.	140
Associates	Developing and writing the marketing materials and financial strategies developed by the Managing Directors and Vice Presidents.	Recent MBA graduates from highly rated universities. Position lasts two-three years before they become a Vice President.	130
Analysts	Producing the financial models used to accompany the marketing materials and financial strategies developed by the Managing Directors and Vice Presidents.	Recent BA and BS graduates from highly rated universities. Position lasts for two years, then most analysts will return to school to acquire an MBA.	70

Task Analysis

We identified areas where computer training can improve performance. Specifically, by learning how to apply advanced functions and features of Excel, Windows and cc:Mail to do their daily tasks, analysts can save a significant amount of time. In addition, reports can be streamlined and presentations made more effective.

In the table below we have outlined the most important PC-related tasks that an analyst performs as well as the PC skills necessary to accomplish the tasks.

Task	Skill
Create financial projections and industry analysis	Use advanced Excel functions
What-if analysis	Use Scenario manager, Goal Seek, Case Manager, Pivot Tables, and Data Tables in Excel
Graph spreadsheet data format and producing attractive spreadsheets	Use the charting function in Excel Use the formatting and printing capabilities in Excel
Communicate and send files to Home Bank's locations throughout the globe	Use cc:Mail to transfer and receive messages and files
Store, find and retrieve documents saved on a computer Work with multiple worksheets	Create directories, use find file command, be familiar with saving and archiving procedures Create workbooks, work groups, arrange files side-by-side and link cells between worksheets

Rationale and Goals of the Training Solution

Course Goals

The major goals of the program are to:

Utilize existing technologies to enhance analysts' performance

Decrease time spent on computer tasks

Targeted Skill Blocks

From the results of the task analysis that is outlined previously, we found the most important PC-related skills an analyst performs can be broken into five skill blocks:

1. Document management
2. Advanced functions and what-if analysis
3. Graphing worksheet data
4. Formatting and printing worksheets
5. Working with data in multiple worksheets

Training Considerations

When designing a training solution for the target audience, we kept several things in mind including that the second-year analysts are

Very bright

Strapped for time

Familiar with many of the functions

Overview of Training Solution and Its Evaluation

The results of the computer literacy pre-test indicated that second-year analysts are of relatively equal skill level. However, each analyst lacks in several but not all of the five skill blocks. Therefore, we are recommending a flexible training program that will use the data from the computer literacy pre-test to evaluate performance in the five target skill areas, identify their areas of weakness, and train them in their weak areas. After the analysts complete training, we propose to give them a post-test and continue training them in their weak areas until a proficiency level has been achieved.

Program Outline

In Figure 9-3, we show how the training process will develop. Later we outline the objectives for each of the targeted skill blocks.

Overview of the Training Solution

As described in the previous section the proposed training will be composed of five skill blocks. Each module will focus on a particular task and will last approximately two hours.

Learning Objectives

Skill Block One: Document Management

Given a sample set of data, participants should be able to complete the following tasks with 100% accuracy:

- Create directories
- Move and copy files from different directories
- Save files on the network
- Transfer files to distant locations

Skill Block Two: Advanced Functions and What-if Analysis

Given a sample scenario, participants should be able to complete the following tasks with 100% accuracy:

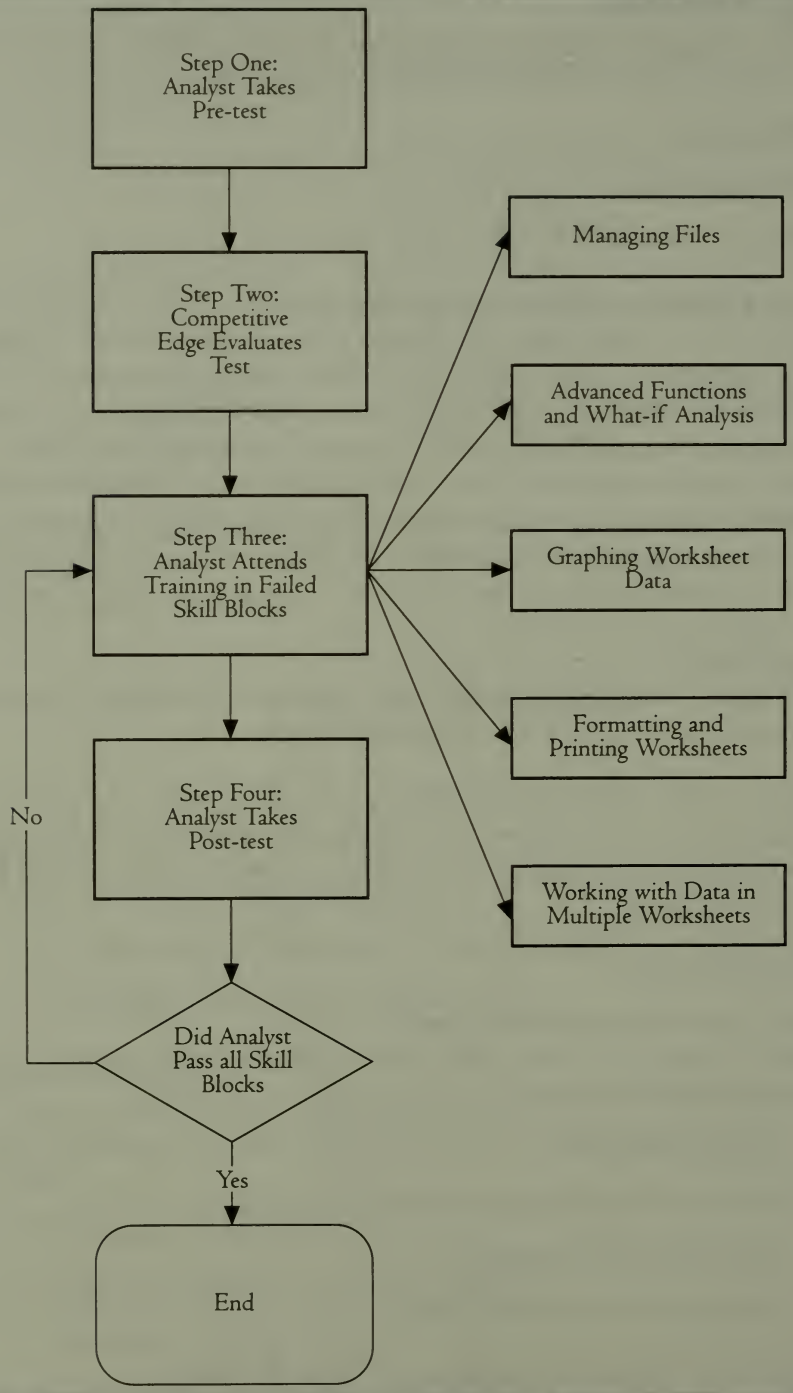

Figure 9-3 Program outline development flow chart

- ➢ Use the IF and VLOOKUP functions
- ➢ Use various financial functions including PMT, IRR, NVP, and FV
- ➢ Use data tables
- ➢ Use the scenario manager
- ➢ Use goal seek
- ➢ Create pivot tables

Skill Block Three: Graphing Worksheet Data

Given a sample set of data, participants should be able to complete the following tasks with 100% accuracy

- ➢ Chart continuous and non-continuous data
- ➢ Create a chart using ChartPrep
- ➢ Create a chart in a separate document
- ➢ Change the chart type
- ➢ Change formatting options
- ➢ Add text to a chart

Skill Block Four: Formatting and Printing Worksheet

Given a problem-solving exercise, participants should be able to complete the following tasks with 100% accuracy:

- ➢ Format cells using styles
- ➢ Display data in outline form
- ➢ Create custom number formats
- ➢ Add graphic objects to a worksheet
- ➢ Create and save a template
- ➢ Set and remove print areas, print titles, and page breaks

Skill Block Five: Working with Data in Multiple Worksheets

Given a sample data set, participants should be able to complete the following tasks with 100% accuracy:

- ➢ Display multiple worksheets
- ➢ Link cells between worksheets

- Link ranges of cells between worksheets
- Group worksheets
- Use workbooks

Training Materials Required

Hardware and Software Required

To effectively deliver the proposed training solution, the following hardware and software are required:

- PC Plate—a computer screen projection device
- A projection screen
- Diskettes
- Twelve 486 66-megahertz Novel networked computers
- Microsoft Windows
- cc:Mail
- Excel
- Word for Windows

Other Material Required

To effectively deliver the proposed training solution, additional materials are required:

- Flip charts
- White board
- Quick reference guides
- Job aids

To effectively deliver the proposed training solution, the following personnel are required in addition to the support staff at Competitive Edge:

- One lead trainer
- One assistant trainer

A Description of Competitive Edge

Competitive Edge is an information-system consulting firm which specializes in training for the Financial Services Industry. We are headquartered in New York City, with branches located in six major business centers throughout the

country. The organization has a total of 150 trainers, in addition to support staff. Our trainers are highly skilled professionals, who are required to have a business background and a four year degree in Computer Science or Management Information Systems. Our standards for selecting trainers are high and the training process is rigorous. Hence, our service is of exceptional quality.

Why We are the Right Choice

Having served the Financial Services community for 25 years, our extensive experiences have enabled us to adapt our programs to industry needs. Our clients can benefit by using our experience and industry insights to take advantage of new technological advancements. We offer training at our state-of-the-art facilities, conveniently located in the Financial District we serve, or on site at the request of our clients.

Available Training Methods

Our company offers a variety of training methods that are designed to be flexible and cost effective. We work with our clients in designing custom training solutions. We have expertise in developing both live and mediated training programs, which include:

- ➢ Instructor-led hands-on training
- ➢ Computer-based tutorials
- ➢ Print-based tutorials
- ➢ Teletraining

Development Schedule

Introduction

Below is a schedule outlining the development time required to ensure a high quality training program.

	Week 1	Week 2	Week 3
1.	Interviews		
2.		Client review	
3.		Validation of needs assessment data	
4.			Program development
5.			Leader's Guide draft
6.			Instructor preparation for pilots

Delivery Schedule

Training delivery will consist of design efforts, which are pilot tested and refined prior to rollout.

January	February	March	April	May
Materials Developed Pilot Test 1	Refined		Refined Pilot Test 2	Rollout ⟶

In this section we discuss the development and implementation costs of the analysts training program. Later we will discuss the cost benefits to the Investment Banking Department.

The following table outlines the various components and their costs in developing the analyst training program. Please note each development day costs $2,000.

Task	Development Time	Cost
Needs assessment	5 days	$10,000
Training materials	4 days	8,000
Instructor preparation	2 days	4,000
Pre-test	2.5 days	5,000
Post-test	2.5 days	5,000
Pilot testing	2.5 days	5,000
TOTAL DEVELOPMENT COSTS		$37,000

Implementation Costs

In the following table we have outlined the implementation costs per session and for the 4-week analyst training program. Class size will be 10 participants. Seventy analysts will each attend five 2-hour sessions. Please note we have included the following options, which are

- ➢ Option 1: Program delivery at Home Bank Facilities
- ➢ Option 2: Program delivery at Competitive Edge

Implementation Cost Option 1

Lead Instructor	$200/hour × 2 hours = $400/session × 35 sessions	$14,000
Asst. Instructor	$100/hour × 2 hours = $200/session × 35 sessions	7,000
Materials	$5/person per class per student	
	$5 × 70 = $350 × 5 classes	1,750

Classroom prep $75 × 35 sessions	2,625
TOTAL IMPLEMENTATION COST OPTION 1	$25,375

Implementation Cost Option 2

Lead Instructor	$200/hour × 2 hours = $400/session × 35 sessions	$14,000
Asst. Instructor	$100/hour × 2 hours = $200/session × 35 sessions	7,000
Materials	$5/person per class per student	1,750
Facility Rental	$500 per session × 35 sessions	17,500
TOTAL IMPLEMENTATION COST OPTION 2		$40,250

Total Cost of Program

In the following tables we have determined the total cost of the analyst training program. To compute the total, we added the development cost to each of the delivery options

Total Cost, Option 1		
Development cost		$ 37,000
Delivery cost, Option I		$ 25,375
Total, Option I		$ 62,375
Cost per session:	$62,375/35 =	$1,782.00
Cost per participant:	$62,375/70 =	891.00

Total Cost, Option 2		
Development cost		$ 37,000
Delivery cost, Option I		$ 40,200
Total, Option 2		$ 77,200
Cost per session:	$77,200/35 =	$2,206.00
Cost per participant:	$77,200/70 =	1,103.00

Projected Benefits

Benefits of Training

The purpose of the second-year analyst training program is to increase analyst productivity and the quality of their output. To determine the return on the training investment, we will calculate the amount of time for the analysts to

complete the pre-test, then we will calculate the amount of time it takes them to complete the post-test. At that time we will be able to determine the time savings on the computers, which we project to be 20 percent. As noted in our needs assessment, the typical analyst spends 50 percent of his or her time on the computer, which equates to 10 percent of their overall time. Assuming an annual analyst salary of $40,000, our training program will bring about a cost savings of $4,000 per analyst per year, or $280,000 per year for all the second-year analysts in the Investment Banking Department.

Time savings on computer	20%
Time savings impact on job (Computer work accounts for 50% of analysts' job description)	10%
Analyst annual salary	$40,000
Benefits caused by time savings on the computer over one year period, per analyst	$ 4,000
Benefits caused by time savings on the computer over one year period, for 70 analysts	$ 280,000
Return on investment for Option 1 (benefits minus investment divided by investment)	349%
Return on investment for Option 2 (benefits minus investment divided by investment)	263%

Appendix B: Short Training Proposal

Proposal
For
Managing Perfomance at OBD, Inc

Philip Elwood and Associates
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Boise, ID 83704
Voice: (208) 555-5490
Fax: (208) 555-5486

March 12, 199X

Background

OBD, Inc. is in the process of communicating to each of its 32,000 employees a newly crafted vision called "OBDCoach." The OBDCoach vision is the result of a process in which over 800 managers participated over the last six months.

Education has been identified as a strategic resource in helping OBD employees carry out the tasks required to achieve this vision. To this end, the Corporate Training Department has formed alliances with line human resources groups and has created work teams which will identify the shared training and education needs of employees across organizational lines.

Current Need

Performance management skills have emerged as a critical area where there is a need for a consistent approach to training. Corporate Training, with input from line human resources groups, has spent considerable time conceptualizing and crating a performance management program. To date, the following key decisions have been made:

- the target population has been defined;
- the program goals and objectives have been defined;
- program requirements and constraints have been identified;
- an "OBDCoach Approach" model has been designed; the components of the model will drive the design of the performance management program—i.e., a unit will be designed around each major component of the model (8 units in total);
- objectives and learning points for each unit have been defined;
- content decisions for each unit have been made; and
- methods and time frames for 3 units have been drafted.

Corporate Training is interested in turning this project over to an outside resource who will create an annotated outline and design program materials which will support and build upon the work that has already been done. This will allow Corporate Training to focus its time and efforts on communicating with line HR organizations and on defining additional training needs.

Scope of Project

A Performance Management program will be designed as follows.

➢ the program will be designed in ***three*** phases:

Phase I:

Unit I: Introduction/Overview

Unit II: The OBDCoach Approach

Unit III: Establishing Performance Expectations

Phase II:

Unit IV: Monitor and Support

Unit V: Performance Appraisals

Unit VI: Recognition and Reward

Phase III:

Unit VII: Development Planning

Unit VIII: Career Discussions

➢ a design document (annotated outline) will be created for each phase;

➢ decisions already made regarding program content and flow will guide the design of the program materials;

➢ much of the program content exists as parts of other programs; wherever possible, existing content will be edited and used;

➢ materials in each phase will be consistent in style, depth, layout;

➢ program content and materials will be designed in support of the vision;

➢ exercises will draw upon participants' own work experiences and will not be case driven; and

➢ materials will be revised, if necessary, after the pilot program for each phase.

Due Dates

The following target dates would be set for each phase of the project:

	Phase I	*Phase II*	*Phase III*
Design Meeting	3/11	April	July
Annotated Outline	3/18	5/30	8/31
Prework	4/1	6/30	9/15
Materials Review	4/8	7/8	9/22
Final Materials	4/15	7/15	9/30
Pilot Program	4/25–26	7/25–26	10/15

*These dates can be modified if it is found necessary to have a complete annotated outline earlier.

Fees

A flat fee will be charged for each phase of the project payable upon acceptance of the final program materials.

Phase I	$6,500
Phase II	$7,000
Phase III	$5,500

Additional Considerations

Consideration should be given to creating a Leader's Guide for the program. This is especially important when the program is rolled out by the Regional Learning Centers. You will want to ensure that they have sufficient support to be successful in running the program.

In addition to creating a Leader's Guide for each Phase of the program, you may want a Leader's Guide to be used if "OBDCoach" is being offered as a full, comprehensive program. To run the program as a full, four-day offering, it will be necessary to make adjustments in the Leader's Guide and possibly in some program materials. For example, deleting introductory activities, adding transitions for one unit to the next, adjusting timing of activities, etc.

If you wish to proceed with creating a Leader's Guide, we can discuss your requirements, time frames, and costs at that time.

Chapter Ten

Training Administration

Highlights

- Seven steps to implementing successful training programs
- Techniques for developing training department budgets
- Examples of useful training reports

The Importance of Training Administration

The administrative support of training is an important responsibility. While not the most glamorous of tasks, it is nevertheless crucial to training success. If program administration[1] is not done properly, the most elegant design and most compelling delivery will at best struggle to be successful and will more likely be simply wasted. Good administrative support for training provides for learner needs such as:

- informative and easy-to-access program descriptions
- customer-focused registration procedures

- ➢ well-organized and appealingly presented participant materials
- ➢ high quality visuals and copies
- ➢ properly prepared physical facilities
- ➢ all required equipment in good working order

These kinds of logistical details are the foundation on which program implementation rests. They provide a sort of training infrastructure, a necessary condition that enables trainees to attend to program content and allows instruction to focus on smooth, crisp delivery of that content as planned.

The Training Administration Sequence

The administration of training, whether in support of instructor-led or self-study programs, includes a number of tasks, reduced here to seven steps. Organizations may modify the sequence, tailor the steps, combine or add some, or outline them differently. No matter how they are defined or structured, however, the following administrative support issues—called here the "Training Administration Sequence"—must be properly handled to provide training successfully:

1. Informing interested parties of program availability
2. Registering participants
3. Distributing and processing pre-work
4. Preparing instructional materials
5. Preparing the physical facilities—site and equipment
6. Supporting the actual delivery of instruction
7. Supporting evaluation

These administrative responsibilities are typically met by support staff working in the training department. In a small department, the support staff may consist of an administrative assistant or two, perhaps even part-time. A training department of larger size often includes an operations or support team with its own division of labor. Typically one person (with a backup) serves as registrar, handling all the processes involved in registering people for programs. Other support requirements are dealt with in two basic ways. One way is to assign an individual support person to a specific program with responsibility for taking care of all the logistical needs of that program. The second approach is to have logistical services supplied by a central support group that handles requirements on a team basis, rotating responsibilities and assigning them as needed. These two approaches

offer the classic trade-offs of individualized, in-depth knowledge of product and programs vs. the efficiencies of leveraging expertise centrally. There is clearly no hard and fast rule to follow in how to choose between these basic options for organizing and managing support resources for training. In fact, support work can be deliberately alternated between the two approaches over time, just for the sake of variety. In either case, however, three key principles flow from experience:

- Repetitive administrative tasks can easily become routine, even boring, and thus susceptible to error. Care must be taken to ensure reasonable variety for those carrying out such tasks.
- It is critical to seize the routine nature of logistical work and turn it into a strength. Support must be done and controlled in a highly disciplined, systematic way, checked and double checked by procedures as routine as the content of the work itself. It is the kind of responsibility that must be managed by checklists, buddy systems, and any other means of verifying accuracy in routinized, repetitive work.
- In a department made up of training professionals and clerical support staff a hierarchy of roles/status almost invariably emerges. Predictable and legitimate as this may be given the nature and purpose of the department, it is also important for both groups in this situation to keep in mind the contribution *each* makes to the implementation and success of training. It is particularly important for the trainers to recognize the critical role played by support services and not let them become taken-for-granted resources.

With these three principles in mind, each of the seven steps in the training administration sequence will be explained in this section. Tools typically used in training administration will be treated at appropriate points in the sequence. A discussion of training finances will conclude the chapter.

Step 1: Informing Interested Parties of Program Availability

Potential participants, their managers, the organization's human resource professionals—indeed, the organization as a whole—needs to know of the training programs that are available internally. Potentially interested parties need a description of each program with enough detail to enable them to understand its learning objectives, its target audience, its fit within a larger curriculum if appropriate, its prerequisites and pre-work if any, its length, and its costs. Also of importance is information on how to access the program: where and when it will be offered, the requirements and methods of registering for it and its cancellation policy.

Catalogs and Schedules

Some of these items, for instance registration methods and cancellation policy, need be explained only once for multiple programs—they need not be repeated as part of each program's description. Some items must be explained on a program by program basis, even sometimes offering by offering. Often a *catalog of programs* is issued which contains solely *descriptive information* on the content of programs in some sort of logical order: alphabetic, grouped by subject matter, by location, or by offering department. A catalog's size can range from a few to many pages, depending on the size of the organization and the number of its training programs. The production of a catalog of significant size, particularly one shared by more than one training department, is a major task and is thus typically done on an annual or other relatively infrequent basis.

A catalog describing program content must be complemented by a *schedule of offerings,* a much simpler document to produce, containing merely the *administrative information* necessary to register for the programs: dates, locations, and times. The purpose of the *catalog* is to enable people to *select the right program.* The purpose of the *schedule* is to enable them to *access programs* once selected. The schedule may, of course, be for the organization as a whole, or may be for a single training department, a particular site, or any organizational component of the organization that makes sense.

The two documents—schedule and catalog—are often combined into a single document which contains both descriptive and administrative information. The decision as to whether to provide the two kinds of information separately or in combined form is at least partially a function of size. A single catalog combining both kinds of information requires more frequent updating (every time the schedule runs out). This may be acceptable if the catalog is small and updating it is not too onerous. Splitting the catalog and the schedule, on the other hand, has the advantage of keeping the program descriptions fixed while the scheduling data changes as needed over time or by location. In either case, commercially available software is available to help a training group organize and publish its catalog/schedule. Figure 10-1 shows sample pages from actual catalogs published in a business organization.[2]

A Risk Involved in Catalogs

Training professionals must be vigilant not to allow a catalog or schedule to substitute for needs analysis. There will be many people in an organization who, when they come to the conclusion that they or their staffs need training, will automatically reach for the training catalog to see what program to go to or send people to. This is not entirely unreasonable, since the catalog presumably contains programs known to be needed and good, programs approved by the organization. The professional trainer nonetheless should regard this sequence of events as *the*

PROGRAM NAME
Business Writing Skills

OBJECTIVES
To help participants write memos, letters, and reports that are clear, direct, and easy to read.

DESCRIPTION
Using case studies and exercises, this program focuses on guidelines for making business writing more persuasive and dynamic. Participants have opportunities to practice and critique business correspondence.

- How to make your writing easier for others to read, understand, and act upon
- How to organize your ideas
- How to select appropriate language and tone
- How to edit and proofread

FORMAT
Instructor-led

LENGTH
Two days

TARGET AUDIENCE
Officers and Professionals

PREREQUISITES
Participants should be proficient in English vocabulary, grammar, and syntax

OFFERING DATES

March	3–4
April	28–29
June	16–17
September	19–20
October	24–25
December	8–9

CONTACT PERSON
Registrar, Corporate Education

Figure 10-1a Sample page from Chase Manhattan Bank training catalog describing "Business Writing Skills" program

PROGRAM NAME
Performance Management at Chase

OBJECTIVES
To develop skills in managing the performance of staff to achieve business goals consistent with the Chase Vision.

DESCRIPTION
With a focus on business results and the Chase Values, participants learn and use communication skills in the areas of performance planning, coaching, performance appraisals, development planning and career coaching. Methods include management practices feedback from staff, manager and self, extensive skill practice using own situations, small group activities and video taping. The program is conducted in three parts offered over time. In order to stay with the same group of people, participants should pick a cluster of dates for Parts One, Two and Three from the schedule below. If scheduling conflicts arise, other dates may be substituted. Participants should pick their preferred cluster and register for all three Parts upon initial registration. Part One must be completed before attending Parts Two and/or Three. Content of the three Parts is:

- Part One: Overview, Communication Skills, Performance Planning/ Objective Setting
- Part Two: Development Planning, Coaching, Career Discussions
- Part Three: Performance Appraisal, Recognition and Rewards

In addition, there will be two, four-day offerings of the program in its entirety.

FORMAT
Instructor-led, feedback instrument

LENGTH
Parts One & Two, one and one-half days each; Part Three, one day, if taken in cluster format; program is four days if taken in its entirety.

TARGET AUDIENCE
Those who have direct performance management responsibilities for others

PREREQUISITES
Must complete Part One before attending Parts Two and/or Three. Must have directly managed at least one person for at least 6 months prior to attending Part One.

(continued)

OFFERING DATES

Cluster	*Part One*	*Part Two*	*Part Three*	*Entire Program*
A	February 24–25	April 21–22	June 10	April 19–22
B	March 10–11	April 21–22	June 10	November 1–4
C	April 7–8	May 23–24	July 11	
D	May 5–6	June 13–14	September 30	
E	June 2–3	July 14–15	October 27	
F	June 27–28	September 12–13	November 4	
G	July 11–12	September 22–23	November 17	
H	September 8–9	October 24–25	December 8	
I	October 20–21	November 14–15		
J	November 1–2			

CONTACT PERSON

Registrar, Corporate Education

Figure 10-1b Sample page from Chase Manhattan Bank training catalog describing "Performance Management at Chase" program

PROGRAM NAME

Managing Personal Growth

OBJECTIVES

To provide participants with the opportunity to assess themselves, receive input from their managers, and plan their development in a highly focused and realistic way.

DESCRIPTION

As prework, participants and their managers complete a skills inventory to assess participants' current job, their strengths, and their development needs. During the program, participants complete a series of exercises focusing on their personal values and job satisfaction. They also compare their self-assessments with their managers' feedback in preparation for development discussions following the program. The discussions are designed to enhance communication between participants and their managers. Topics include:

- How to assess your strengths and development needs in the context of your job requirements
- How to improve communication between you and your manager

(continued)

- How to select appropriate language and tone
- How to enhance your effectiveness and satisfaction in your current job.

FORMAT
Instructor-led

LENGTH
Two days

TARGET AUDIENCE
Officers and Professionals

PREREQUISITES
None

OFFERING DATES

March	10–11
April	14–15
May	19–20
September	26–27
October	20–21
November	21–22

Managing Personal Growth date changes

Old		*New*	
May	23–24	May	19–20
September	12–13	September	26–27

CONTACT PERSON
Registrar, Corporate Education

Figure 10-1c Sample page from Chase Manhattan Bank training catalog describing "Managing Personal Growth" program

wrong response. It is, in fact, one of the dangers of publishing a catalog. People will unthinkingly confine their consideration to the published program offerings if a catalog is available. The trainer must be always alert to help clients think through what the problem really is. Will *learning* actually fix the problem? Or is it a performance need that learning will not address? Only if learning will actually solve the problem at hand should the trainer help the client consider training programs as potential solutions, and even these may or may not be already scheduled, already cataloged programs. The downside risk of a training catalog is that it will be a lens through which training decisions are incorrectly made if care is not taken to ensure otherwise.

Other Ways of Publishing Training Information

It is of course increasingly feasible to provide both catalog and schedule in electronic form rather than on paper. The ideal is a situation where everyone who needs to know the information has access to a single LAN or fully interconnected networks. Training information then can be placed and maintained in a single location, with all interested parties accessing this location for the most up-to-date version of the information whenever needed. This approach has the major advantages of allowing ease of update, access, and query, as well as eliminating the costs and complexities of paper information distribution.

In addition to catalogs and schedules, astute training leadership will see to it that program and schedule information is provided in whatever other ways make good sense within the organization's culture. The task here is essentially one of advertising and marketing, keeping people informed of training availability. Flyers and desk drops are often used for this purpose, as are articles or interviews or boxed notices in internal newspapers or other publications. Bulletin boards, both physical and electronic, are another means of getting the word out (it is important to keep bulletin boards up to date, even if that means simply removing outdated material).

Sign-on news flashes, often a feature of electronic networks, are another method of furnishing training information. Live presentations at the staff meetings of client departments or other employee gatherings provide the opportunity to discuss programs in depth, handle questions, even surface issues and learning requirements that need to be addressed. Sometimes the training department can take part in other employee events—benefits or development fairs, for example. Still another possibility might be a booth or desk periodically set up at the entrance to the employee cafeteria or lounge or in a building's main lobby. Finally, if the organization uses business television to keep employees informed, news about training programs and schedules can be broadcast in this medium.

The ways of providing people with training information are many. The point is to use the ways that make sense, to do so in a systematic way, and to be certain to use them in a manner that supports training's mission: helping the *right* people learn the right things. The primary emphasis should be on enabling both employees and the organization to achieve legitimate business goals. Getting people into training programs is a worthy and even necessary administrative task, but it is not an end in itself. In fact, doing so can be an activity trap if it is not kept in proper perspective. If a training department often finds itself in the position of having to drum up participation in its programs or cancel them for lack of it, there is something more fundamentally wrong than faulty internal advertising and information processes. Having to beat the bushes for participants is usually a sign that the program is not the right program or is not correctly targeted or is not properly

positioned within the organization. Doing a better job of advertising program availability will not deal with these larger, more important issues.

Finally, the members of the training department, particularly the support staff, must be trained to handle information inquiries properly—telephone calls, faxes, e-mail, and even lunchroom or water cooler encounters. These, after all, are often the department's front line of contact with its internal customers. It is important that those who answer inquiries be familiar with the programs the department offers, knowledgeable in its policies and procedures (especially registration), and thus able to directly help callers with the information they seek or refer them to the proper source.

Step 2: Registering Participants

Once people know what programs they wish to take and how to register for them, the next step is registration itself. Registration typically involves the following:

- registering or wait-listing participants for the programs they desire
- producing confirmation letters notifying people of their status on an ongoing basis
- producing reminder/pre-work letters as tickler dates arrive
- handling cancellations
- producing class rosters
- producing a variety of management reports both before and after actual offerings
- maintaining a historical data base of training accomplished and/or providing upload linkages to the organization's employee data base

Software Registration Systems

Computer technology provides powerful assistance to the work required for registering program participants. Training departments have the three classic choices faced by any organization that wishes to automate part of its work: design the system in-house, purchase a system available in the marketplace, or purchase a system and modify it. Designing a registration program from scratch can be time-consuming and expensive; however, if it is designed correctly, the result can be a perfect fit with organizational needs, and there may well be situations where this approach is necessary. On the other hand, off-the-shelf registration systems are readily available for purchase at relatively modest cost (*see box*) and quite successfully handle the standard needs of registering people as listed above, so much so

that the notion of developing an in-house, custom-built system should be subjected to extremely rigorous review.

> *The following training registration packages were advertised in a single issue of* Training Magazine *(5/94) and are listed here as a representative sample of the registration software easily available on the open market; the ads are listed in the order of their appearance in the magazine:*
>
> a. *Training Administrator—Gyrus Systems, Midlothian VA. (800) 555-2829.*
>
> b. *On Track for Training—DK Systems, Chicago IL. (800) 555-5332.*
>
> c. *TD/2000—Spectrum HR Systems, Denver CO. (800) 555-3287.*
>
> d. *Ingenium—Meliora Systems, Rochester NY. (800) 555-5796.*
>
> e. *Registrar—Silton-Bookman Systems, Cupertino CA. (800) 555-6311.*

Purchased software typically comes with vendor support, including some form of training in the system's use. These "tried and true" systems can also be modified to fit particular needs, with the vendor selling the source code and the organization's own systems professionals making the changes necessary to modify the package for internal use. Such modifications are often done with the collaboration of the package's vendor, sometimes even on a shared-cost basis.

Registration systems, whether purchased off the shelf or custom written, easily support all the registration steps, from participant sign-up to confirmation and wait-list letters, from program rosters to room assignments and participant transcripts. Figure 10-2 offers sample reports from Silton-Bookman's *Registrar* database: first a class roster, and second a "person note," which allows comments for a particular participant, such as "needs a vegetarian meal" or "arranged to hand in his pre-work late."

The Registration Form

A registration form of some sort is typically the trigger for the start of the registration process. Figure 10-3 is a sample showing the kind of data usually captured to register someone for a training program. The form is often on paper, but more and more the registration process is becoming entirely electronic as organizations become more and more networked.

As was mentioned earlier, one administrative person in the department is typically designated as the individual responsible for registration and its associated

REGISTRAR Standard Report
Class Roster

page 1
10-01-XX

class name: LEADERSHIP
class type: MGT
class number: 110
capacity: 015
start date: 10-12-92
close date: 10-09-92
sessions: 002
contact hours: 16
charge per seat: 0095
room: 617A
trainer: Ross Brown

registration: E=15 W=3 C=3 B=0 F=0

ROSTER

ALVARES, ARTIE	22836	SUPERVISOR	0800	E	08-03-92
BERHAM, ERICH	22134	MANAGER	0100	E	09-24-92
BRADSHAW, PAULA	11191	ACCOUNTANT	0500	E	09-08-92
CARLISLE, SHANNON	50005	ENGINEER	0600	E	09-07-92
DENCO, MARY	22098	SUPERVISOR	1400	E	08-03-92
EDDY, ELOISE	98120	ACCOUNTANT	0500	E	09-07-92
GARDENER, TOM	34099	SUPERVISOR	0200	E	08-03-92
HAMAN, JEFF	66409	TRAINING SUPV	0700	E	09-24-92
XRUCHIN, ANNA	00022	SUPERVISOR	0800	E	09-25-92
LANE, RANDY	44509	FINANCIAL ANALYST	0500	E	08-31-92
MARTIN, SEAN	23456	SUPERVISOR	1300	E	09-25-92
PEEL, CHESTER	38123	SUPERVISOR	0200	E	09-24-92
SMYTHE, NOLAN	38452	PROGRAMMER	1300	E	08-14-92
YEMOTO, DENNIS	46193	SUPERVISOR	0200	E	08-07-92
ZOLTON, LESS	33900	CUST SVC REP	0600	W	09-07-92
001 ASDELL, JAMES	00312	CUST SVC REP	0200	W	09-28-92
002 FLORES, GINA	12555	ADMIN ASST	0100	W	09-29-92
003 JACKSON, MICHELLE	00909	SALES REP	1100	W	09-30-92
EDGAR, GREG	00065	SUPERVISOR	0900	C	09-24-92
GOVEX, LOUIS	33333	PERSONNEL REP	0300	C	09-29-92
KELLEY, MICHAEL	07856	LAB TECH	0600	C	09-24-92

COURSE TITLE:

COURSE DATE/REFERENCE#
(Ref. # for Self-Guided Learning Resources)

Registrant Last Name:

Corporate Title:

Registrant First Name:

Job Function:

Social Security #:

Public Phone #

Figure 10-2a *Registrar* Standard Reports: sample class roster

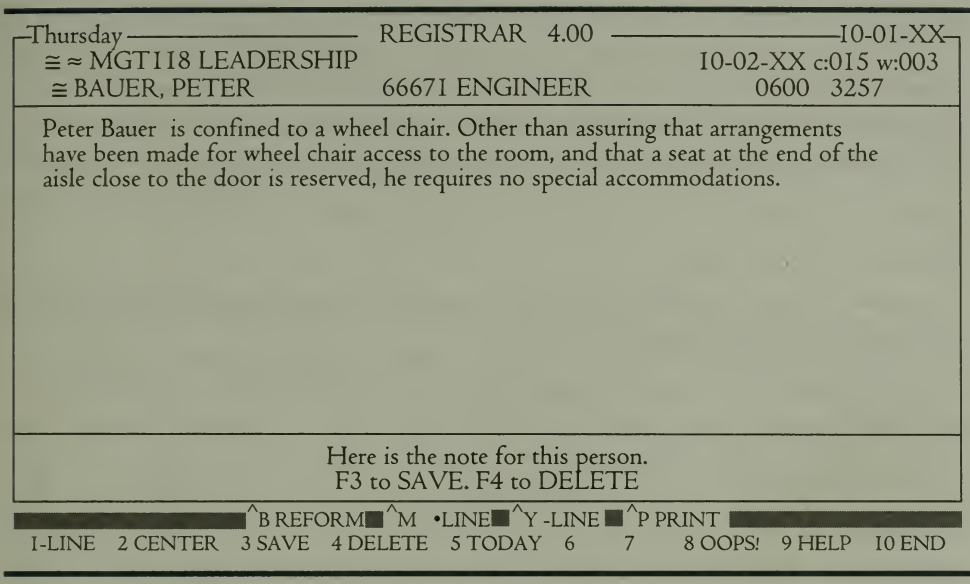

Thursday REGISTRAR 4.00 10-01-XX
≅ ≈ MGT118 LEADERSHIP 10-02-XX c:015 w:003
≅ BAUER, PETER 66671 ENGINEER 0600 3257
Peter Bauer is confined to a wheel chair. Other than assuring that arrangements have been made for wheel chair access to the room, and that a seat at the end of the aisle close to the door is reserved, he requires no special accommodations.
Here is the note for this person.
F3 to SAVE. F4 to DELETE
^B REFORM ^M •LINE ^Y -LINE ^P PRINT
1-LINE 2 CENTER 3 SAVE 4 DELETE 5 TODAY 6 7 8 OOPS! 9 HELP 10 END

Figure 10-2b *Registrar* Standard Reports: sample person note

tasks. This is particularly true if registrations are handled by means of a software package. While these packages are straightforward to operate, there is nonetheless a learning curve involved that needs to be managed. The department's registrar should certainly have a cross-trained backup, but one designated person should take the lead role with regard to registrations. In addition to operating the registration software, this lead person is also usually the one to deal with inquiries concerning registrations and wait lists and status. Such inquiries are normally rather frequent, and the department must make sure that the registrar has the information and procedures to deal with them. It is also important that others in the department know how to handle such inquiries, either providing the information or referring the caller to the registrar.

Wait Lists and Cancellations

A key registration responsibility, differing from program to program and varying in complexity, is how to deal with a participant who wishes to withdraw from a program. Responding to this kind of request involves issues like wait lists and substitutions, timing of the cancellation (what if it's too late to get a substitute?), program costs and charges, pre-work returns and/or costs, and minimums established for the number of participants necessary to run the course. The question of whether or not the program is mandatory in nature can enter the picture

Course Title:	Course Date/Reference#: (Ref. # for Self-Guided Learning Resources)
Registrant Last Name:	Corporate Title:
Registrant First Name: M.I.	Job Function:
Social Security #: ___ ___ ___-___ ___-___ ___ ___ ___	Public Phone # ( ) ___ ___ ___-___ ___ ___ ___
Department:	Chase Phone #: CN
Expense Code: ___ ___ ___ ___ ___	Location: Fl:
	Fax #: ( ) ___ ___ ___-___ ___ ___ ___

Circle the number next to the business or function in which you work:

1. Bussiness Development	12. Global Asia/Pacific
2. Capital Markets	13. Global Corporate Finance
3. Case InfoServ International	14. Global Europe, Middle and Africa
4. Chief Financial Officer	15. Global Latin America
5. Consumer Financial Services	16. Global Private Banking
6. Corporate Communications	17. Global Risk Management
7. Corporate Compliance, Control & Administration	18. Global Wholesale Portfolio Mgmt
	19. Global United States
8. Corporate Human Resources	20. Legal
9. Corporate O&S	21. Regional Banking
10. Economics	22. Other
11. Customer Planning & Dev Off	

Ethnic Code:*

1	Black
2	American Indian
3	Asian
4	Hispanic
5	White
6	Other

*For Corp HR Affirmation Action

Sex Code

F	Female
M	Male

Do you have a development plan? Yes ☐ No ☐	If yes, is this course on that plan? Yes ☐ No ☐
Do you require any special services or accommodation? Yes ☐ No ☐	If yes, nature of service or accommodation? _____

In order to process your registration form, you must obtain signatures from ***both*** your manager/supervisior and HR representative. (Not required for Self-Guided Learning Resources). Then send your registration form to the ***appropriate*** sponsor.

Employee Signature	
SIGNATURE:	DATE:

Required Approvals (Not required for Self-Guided Learning Resources)

MANAGER/SUPERVISOR		HR REPRESENTATIVE	
Print Name:		Print Name:	
Signature:		Signature:	
Date:	Phone:	Date:	Phone:
Location:		Location:	

Note: You are *not* confirmed for a program until you receive a Confirmation Letter

Figure 10-3 Training registration form

as well. It may be one thing for an employee to cancel out of business writing class, but quite another to opt out of an orientation to management for newly promoted supervisory personnel. The latter transaction may, for instance, involve the registrar in keeping track of who has attended the mandatory program and who has not; it may even involve reporting the status of registrations and cancellations for a mandatory program.

Step 3. Distributing and Processing Pre-Work

Many training programs require participants to do some work in advance. These requirements range from the simple to the complex. An example of a simple *pre-work* assignment is that a participant in a writing class is expected to write a memo on some topic (sometimes supplied, sometimes self-selected) and bring it with him/her to be used in a program exercise. Similarly, participants are often asked to read an article or a case study or an organizational policy in preparation for a program and perhaps answer a set of questions concerning the material they have read. In these situations, the support need is simply to make sure the participant is informed of the pre-work expectation and supplied with anything necessary to do it—a copy of the required reading material and any associated study questions. Note that it is part of administrative support to ensure that copyright laws are respected and copy permissions are obtained where necessary.

Advance Submission of Pre-Work

A more complex pre-work requirement involves the participant not only doing something in preparation for a program but submitting it in advance: not only writing a sample memo on some topic but sending it to the training department in advance so the instructor can read and edit it. The requirement that pre-work be submitted ahead of time increases the support task significantly. Given the requirement of advance submissions, participants must be informed of what they need to do and provided with the wherewithal for doing it, *and* their compliance with the requirement must also be tracked. The support responsibility now includes establishing deadlines for the pre-work submissions, keeping track of who has submitted the pre-work and who hasn't, and reminding the delinquents once or twice or . . . The support responsibility also involves ensuring that the pre-work submitted in advance is processed for use in the training program. This processing depends, of course, on what the pre-work is. It involves at a minimum giving the pre-work submissions to the instructor (e.g., the writing sample). Sometimes the processing means aggregating or summarizing participant submissions, or it may involve getting the pre-work submissions to a vendor on time for processing.

Feedback to Participants as Pre-Work

An increasingly common form of pre-work involves program participants obtaining feedback from others, feedback on issues which the organization deems important. Examples of such issues are managerial style, teamwork, and career aspirations. Feedback can be gathered for use in training programs on project or performance management, on other general or specialized management topics, on career development, on communications or influence or sales skills, and on many other topics. All sorts of programs include components built around participants obtaining feedback from others on how or how well they carry out certain tasks or meet certain responsibilities.

The sources of feedback typically include one or more of the following: boss, peers, staff, customers (internal or external), colleagues in other departments whose work depends on the participant, colleagues on whom the participant depends for his/her own work, HR professionals who work in support of the participants' departments, or even individuals from the participants' personal lives. Potential feedback sources are anyone whose input on particular issues would be of value to the participant, anyone who can provide useful insight from a useful perspective. Feedback from *all* points of the participant's compass—called 360-degree feedback precisely because it is from all points—is increasingly frequent, particularly in management development programs.

In all these cases, whatever the purpose or the source, having participants get feedback adds significant demands to program support responsibilities:

- Program participants must be supplied with the instructions and the materials needed to ask others to supply the feedback the program requires. This entails paper feedback forms or diskettes, together with the instructions on how those giving the feedback are to submit it.
- The training support staff must be prepared to handle questions on these data gathering processes and to deal with glitches in it ("I can't get this disk to work in my PC.")
- The staff must also be prepared to deal with submission deadlines, late or lost data, participant additions to or changes in feedback sources, and what to do if a participant cancels out of a course at the last minute.

These kinds of complexities are well beyond simply sending out a case study for people to read in advance! It is crucial that support staff work closely with the department's trainers (usually one trainer who is designated as the "Program Manager") to ensure that the support documentation and processes for feedback-based programs are accurate, complete, and up to date.

The actual processing of feedback—entering the data, crunching the numbers, producing the feedback reports that will be used in the program—is a significant task all by itself. The job is often outsourced for reasons of confidentiality. In this latter case, the internal support responsibility is to link with the outsourced processor of the feedback to ensure that all is going smoothly. All the required input must be received by the due date, and feedback reports for the program must be received on time.

The Confidentiality of Feedback Data

No matter where the feedback data is processed, in house or out, the importance of confidentiality would be difficult to overemphasize. Feedback cannot be left lying around on desks or worktables. It should never be discussed over coffee or remarked on in any way. It can be shared only with those identified by careful procedures, usually *only* with the recipient. Care, to the point of obsessiveness, about the confidentiality of feedback data should be regarded as a mark of true professionalism. Once trust about the confidentiality of feedback is lost inside an organization, it would be extremely difficult to win it back. This would in turn make future efforts at the use of feedback virtually impossible.

A Sample Pre-Work Checklist

By way of summary of this section on pre-work, Figure 10-4 shows a checklist actually used for the complex pre-work necessary for a management development program at Chase Manhattan Bank's Corporate Education Department.

Step 4: Preparing Instructional Materials

The support job relative to instructional materials is to make sure they are prepared in advance, ready for use when the program begins. "Instructional materials" includes all the items that will be used in the program, whether for instruction or as materials to be given to the program's participants. Getting these items ready in advance means different things depending on whether or not the materials in question are purchased or have been created internally. Preparing commercially published workbooks or reference books (often the case in both live and mediated instruction, especially the latter) means simply making sure a sufficient stock is on hand. Items that have been developed in-house, on the other hand, must be created. If a program of live instruction calls for overhead transparencies or predone flip charts, they must be created and arranged in the proper sequence as specified in the program's leader's guide. Handouts must be photocopied, binders stuffed, instructions for role plays and simulation exercises must be readied in sufficient number, and so on.

PRE-WORK ADMINISTRATION—CHECKLIST

Three Phases for EMP Pre-Work:

Phase I Confirmation Memo

Send a confirmation memo to each participant by name ten weeks prior to program date for U.S. delivery, twelve weeks prior for international delivery. (Sample memo in master file). Reiterate program dates and times. Include a list of participants and a copy of our cancellation policy. Send a copy of the memo to each participant's manager.

Phase II Pre-Work Package

Send the following to each participant eight weeks prior to program date. Follow directions provided with items:

A. Blue program folder with two pockets, "Pre-Work Memo" clipped to outside offolder (Sample memo in master file).

   1. In the left pocket, place the "Participant Instruction Memo" (Sample memo in master file).

   2. In the right pocket, place the pre-program workbook.

   3. Three-hole punch and include copies of the following in the right pocket:
      a. "The New Manager."
      b. "Dealing with Turbulence."

B. Prepare a 3 1/2″ disk mailer, with send and return labels. Prepare a label saying "Reminder: questions on this disk refer to your manager." Put the label on a 3 1/2″ "DIRECT REPORT DISK" (provided by vendor) and place the disk in the mailer. Place 6 of these prepared mailers in a gray 9×12 envelope with memo, "Feedback Gathering Instructions," (sample on file) stapled to outside of the envelope. Prepare one of these gray envelopes for each participant.

C. Prepare a 3 1/2″ disk mailer with return label. Create a label saying, "Self questionnaire," and put the label on a "SELF DISK" (provided by vendor). Clip it to the memo, "Self Questionnaire" (sample on file).

(continued)

D. Put one Item B (grey 9×12 envelope) and one Item C (Self Questionnaire disk mailer) into white 11×14 envelope, one white envelope per participant. Obtain mailing labels for all participants from the Registrar, put a mailing label for each participant on a white envelope, and put the envelopes in the inter-office mail.

E. Send out "Pre-Program Discussion Memo" to participants' managers (sample on file—note two versions, one for men, one for women: to get the pronouns right). The memo tells managers of the program requirement of a discussion with participants on their staffs. Call the manager to confirm receipt of the memo. Advise that the participant will schedule the meeting, and explain the purpose of the discussion (read pre-program workbook for info, and be prepared to discuss the program's feedback features).

Phase III Feedback Tracking

As disks return from participants and their feedback sources:

A. Scan each disk for viruses, using standard department virus protection software. If virus found, report to Program Manager. Batch clean disks and forward to vendor for feedback report generation.

B. Verify each participant receives feedback from at least four people. Call those who are lacking requisite number on due date. Make clear the necessity: particpants may not attend class if insufficient feedback received; cancellation charges will apply. Starting 3 weeks before program, inform Program Manager of status of report generation every other day.

C. Be prepared to talk with participants and their feedback sources concerning questions and problems with disks and/or feedback process. **Read feedback instruction sheets so you can be helpful.** Consider doing a feedback disk for practice so you have that experience to draw on.

D. Two days before program: Verify final participant list with Registrar based upon feedback on hand, obtain class roster, give copy to Program Manager and instructor(s), and inform Program Manager of participants who have not received sufficient feedback to join program.

Figure 10-4 Chase Experienced Manager Program (EMP)

Checklists

The preparation of all these instructional materials is a prime example of work that must be managed and controlled by checklists. Figure 10-5 shows a sample checklist for the preparation of material for a live instruction course, the "Program Packing Equipment, and Binder Assembly" checklist for "The Experienced Manager Program." The program was one offered at Chase Manhattan Bank, the same program used in the pre-work example above. The purpose of such checklists is to make sure that all the items needed for the program are taken care of. Checklists are often used in a partnered way: one person will use a list to prepare the materials, and a colleague administrator will use the same list to double check the full and accurate completion of all items. The practice in Chase's Corporate Education Department is to prepare the "Program Box," literally a small cardboard file box designed to hold hanging file folders. One hanging folder is placed in the box for each item the course needs and filed in the correct sequence, day by day, over the program's entire length. The box is then delivered to the classroom as part of the program set-up.

One of a checklist's important side benefits is to make possible the training program's portability: the list is a perfect vehicle for communicating to another department what is administratively necessary to run this particular program. A good checklist thus clearly identifies the items on it and is further backed up by safely archived master copies of its contents.

Backups and Archives

Providing adequate backup for program materials is an important administrative responsibility. The administrator supporting a training program should be working from not only a checklist but also master copies of all the items that appear on the list. These working masters are part of the program's documentation. They are used to make the copies of material each time a program is run, but they are never themselves used in a program. The working masters should themselves be duplicates of a set of materials kept in an archive as ultimate backup copies of all materials. Both the working and archive masters should consist of clean, complete copies of all items on the program checklist, whether they are in-house creations or commercially purchased. Electronic copies of in-house material should of course also be backed up and archived. (This is sometimes even possible with commercially purchased material.)

The purpose behind the care concerning master copies is twofold. First, it serves as a base for the production of high quality program materials—clean, crisp copies, fully legible, appealingly packaged, and pleasing to the eye. This is a message of respect for participants and their learning efforts, a recognition of the importance of both. Consider the effect of smudged, skewed copies of pages in a participant binder or the impact of sloppy visuals, and the point is crystal clear.

PACKING AND MATERIALS CHECKLIST

PROGRAM PACKING

( ) **Binders**—One per participant, plus 4
(See Binder Assembly List if necessary)

( ) **ACUMEN Feedback Envelopes** (4 per P, sorted into alphabetical sets)

- ( ) Self
- ( ) Individual vs. Group
- ( ) Feedback on Practices A–F
- ( ) Feedback on Practices G–N

( ) **Handouts—Day 1—NOTE: All handouts are 3–hole punched**

- ( ) Extra Pre-Work Articles
- ( ) Extra Pre-Program Workbook (5)
- ( ) Participant's List (from Ops Coordinator—30)
- ( ) Maximizing Profitability Exercise Sheets
  - ( ) 4-Member Team (30)
  - ( ) 5-Member Team (30)
  - ( ) 6-Member Team (30)
- ( ) Blank ACUMEN Target (30)

( ) **Handouts—Day 2—NOTE: All handouts are 3–hole punched**

- ( ) Managing Individual Performance Role Play Instructions for:
  - ( ) RI (2p, 2-sided) (6)
  - ( ) PF (3p, 2-sided, stapled) (6)
  - ( ) TT (2p, 2-sided) (6)
  - ( ) SP (2p, 2-sided) (6)
  - ( ) NO (2p, 2-sided) (6)

  Note: initials represent role-play characters.
- ( ) Managing Individual Performance Observer Forms (30)
- ( ) Managing Individual Performance Feedback Forms (5 per person—130)
- ( ) Managing Business Performance Case (1 of 2 needed)
  - ( ) For NY and Domestic, "Big Shoulders" (39p booklet—30) OR
  - ( ) For London/HK/TKO, "Star Wars" (20p booklet—30)

(continued)

( ) **Handouts—Day 3—NOTE: All handouts are 3–hole punched**

- ( ) Managing Business Performance Team Assignments (1p—30)
- ( ) Managing Business Performance Team Rating Sheets (1p—30)

( ) **Handouts—Day 4—NOTE: All handouts are 3–hole punched**

- ( ) Managing Across the Organization Individual Assessment Forms (2p, 2-sided; 6 per P—150)
- ( ) Managing Across the Organization Group Average Assessment on Practices O–V (2p, 2-sided; 6 per P—30)
- ( ) Program Evaluation Forms (2p, 2-sided; Change Dates and Instructors—150)

( ) **Materials**

- ( ) Chase History Slides (14, in carousel)
- ( ) S-Curve Overheads (Set of 11—in labeled Tyvek)
- ( ) ACUMEN Overheads (Set of 10—in labeled Tyvek)
- ( ) Flipcharts, 1 pad
  - ( ) Day 1 #'s 1.1—1.16

    Note: Instructors make other flips during class
- ( ) Video—

  Tapes Include
  - —ACUMEN Illustrations
  - —Nine to Five
  - —Broadcast News
  - —Managing Individual Performance
  - —King (I Have a Dream)
  - —L.A. Law
  - —It's a Wonderful Life
- ( ) Name Tags for Role Plays (sets of 5—R.I., P.F., T.T., S.P., & n.o.)
- ( ) 6 Wood slabs (1″ x 12″ x 12″, *Clear* pine)
- ( ) Safety Glasses (3)
- ( ) Prizes for Winning Team (Gotham T-Shirts; 6L and 6XL)
- ( ) Name tags for Day 3 Cocktail Party (Real Names, typed tags—CDC)
- ( ) Parting gift (In NY, deliver on Day 4; other locations, ship with program supplies)
- ( ) Large Tyvek envelopes with mailing labels (to mail participant's binders, etc. if needed—20)
- ( ) 1/2″ Blank Videotape, one per team (4)

(continued)

( ) **Instructor's Kit**

- ( ) 5 rolls 1″ Masking tape
- ( ) 6 sets of 5 Magic Markers (red, blue, purple, green, black)
- ( ) Pens/Pencils (sharpened)
- ( ) Post-its—5 tiny (1″ x 1″) and 5 small (2″ x 3″)
- ( ) Stapler
- ( ) Scissors
- ( ) Extra peel-off name tags

EQUIPMENT

- ( ) Slide Projector (Day 1)
- ( ) Overhead Projector (Days 1&3)
- ( ) Video Monitor
- ( ) ½″ VCR's
- ( ) Video Camera and playback (one per team) in each breakout room (Day 3)
- ( ) Flip chart stands and pads (4 in main classroom, 1 in each breakout room)

BINDER ASSEMBLY

- ( ) **Planning Guide** (40p booklet, saddle-stitch, 3–hole punched—Inside front cover)
- ( ) **Cover Sheet**
- ( ) **Day 1 Tab**
  - ( ) Program Agenda (1p)
  - ( ) S-Curve Growth Model (1 1p, 2 sided, stapled upper left)
  - ( ) Article: "Bringing Spirit Back to the Workplace", W. Matthew Jeuchter (5p, 2-sided, stapled)
  - ( ) Acumen Clockstyle Descriptors (1p)
  - ( ) Handbook for Using ACUMEN (57p booklet, saddle stitch)
  - ( ) Ideal Manager Profile (Blank ACUMEN target)
  - ( ) Managing Individual Performance Team Role Play
    - ( ) Team Instructions (6p, 2-sided, stapled)
    - ( ) Instructions for B. Smith, Observer (7p, 2-sided, stapled)
- ( ) **Day 2 Tab**
  - ( ) Managing Individual Performance Improvement Model (1p)
  - ( ) Managing Individual Performance Reference Guide (7p booklet, saddle-stitch)

(continued)

( ) Management Practices "Placemat" (2p, 2-sided, card stock, 4-color)
( ) Performance Analysis Form (2p, 2-sided)

( ) **Day 3 Tab**
( ) Managing Business Performance Model (1p)
( ) Managing Business Performance Tools and Techniques (19p booklet, saddle-stitch, punched)
( ) Managing Business Performance Team Exercise (1p)
( ) Managing Across the Organization Case: "A Rock and a Hard Place" (13p booklet, saddle-stitch)

( ) **Day 4 Tab**
( ) Managing Across the Organization Team Exercise (2p, one-sided, stapled)
( ) Bibliography (13p, two-sided, stapled)

Figure 10-5 Chase Experienced Manager Program Administration: checklist

The second reason for care concerning masters and backups is the classic one: providing for disastrous contingencies. Good program administration takes measures to make sure it can always recover from the loss of materials in the mail or due to ordinary human error or because of disasters such as a fire or a flood. (A runaway sprinkler system in a building can wreak havoc on a supply room!)

Once program materials are ready, a major aspect of logistical responsibility is making sure the materials get to the physical location of the program and are returned at its end. The materials must then be checked and restored to inventory if possible or re-ordered/re-made as needed. A sound practice is to replenish supplies when materials are returned at program end. This is not essential, but it prevents supplies from being part of the last minute crunch at program start.

Program Materials

Materials vary enormously from program to program. The administrative responsibility for them is to *supply* them as called for by the leader's guide, on time and with a high quality appearance. Creating the materials, the master copies, is a task done as part of program design and development, not of administration. Chapter 7 dealt with program materials from an instructor's point of view. We will here discuss a few of the most commonly used materials from the perspective of the administrator who must prepare them.

- Visuals of one kind or another, most usually overhead transparencies: These are contained in the Leader's Guide and are now typically created using 8 1/2 × 11 hardcopy output from a word processing or desktop publishing or presentation software package. Visuals are made on clear or colored transparency sheets using standard photocopying equipment, some of which can produce color. The transparencies may include overlays, may require colored patches, and may or may not be mounted on cardboard frames. Frames give the visual a finished look when displayed, make them a bit easier to handle, and provide a convenient space for speaking notes. Unframed overheads, on the other hand, are much easier to pack for travel—they can even be 3-hole punched for placing in a binder or can be slipped into clear plastic sleeves which are pre-punched for a binder's rings. Typically, overheads are not used up in a program, and thus do not require re-making.

- Flip charts: Visuals planned as flip charts are to be found as 8 1/2 × 11 masters contained in the Leader's Guide. These masters must be turned into actual flip chart pages. They can be lettered/drawn by hand directly in a flip chart pad, or they can be produced mechanically by special copiers. The copier output is then taped into a flip chart pad one at a time (skipping a couple of pages between each chart to prevent see-through). Flip chart pages also serve sometimes as wall posters in a program. They can be lightly laminated to enable writing and erasure on their surface.

- The participant binder: A staple of most programs, this binder contains the material the program calls for its participants to receive. It is typically divided by tabs for each day or section of the program. Custom binders can of course be printed; more commonly used are generic binders with clear slip covers on the front and the spine, allowing for customization with a simple sheet of paper. Very often a training department will want to give all its programs—or a particular curriculum within its offerings—a special "look" for identification and marketing purposes. The availability of desktop publishing and presentation software provides powerful and exciting visual opportunities for logos and print design and other visual initiatives. Note that the participant binder often includes the program evaluation form, given a place of prominence in the binder so participants can find it and use it *during* the program rather than simply have it as a handout at the end. Many training programs include all participant materials in the participant binder, reducing handouts to a bare minimum or eliminating them altogether, a tactic which simplifies both program support and instruction.

- Training programs often include what the trade calls a "giveaway," some memento of the program that ideally reinforces and supports the skills/knowledge it delivered. An example is a handy pocket calculator, perhaps with an appropriate slogan or logo, for a program on budget procedures. A clear plastic paperweight with a computer chip embedded in it might remind people of a technology program. Canvas carrying bags, writing pad folders, photographs or certificates, pens—the possibilities are limited only by the imagination and creativity of the program's designers and the funds at their disposal. If there is such a giveaway, program administrators must make certain that it is available in sufficient supply and present in the classroom when needed.

- Consumable supplies: Paper, pads, pens and pencils, erasers, colored markers, paper clips, rubber bands, post-it notes, and anything similar that the program requires. Some of these items will be called for by specific exercises or games within the program, and some are just general supplies potentially needed by people in a learning situation. Making sure enough of such supplies are on hand for a program is always a point on an administrative checklist.

One final note about program supplies. They offer the opportunity for volume purchasing, which can provide significant savings for an organization. Every effort should be made to aggregate generically needed materials for purchase so as to obtain the best price possible. And every effort should be exerted in program design to use materials and tools that are generically available.

Step 5: Preparing the Physical Facilities—Site and Equipment

Appropriate, comfortable physical facilities and working equipment are all important support considerations. People learn best in settings that are conducive to the task. Learners should be able to concentrate on program content rather than on a lack of ventilation, missing chairs, or malfunctioning overhead projectors. Learning activities such as lectures, role plays, or small group work dictate appropriate room arrangement and seating. Careful attention to these sorts of details results in comfortable facilities and equipment that perform as expected. The administrative task here is to ensure that the physical facilities are set up as called for in the Leader's Guide, which typically includes a facilities layout plan and an equipment list as part of its program documentation.

Kicking the Tires

We have already seen a checklist for equipment (see Figure 10-5). The program administrator will not only see to it that the equipment is provided as called for, but also that it is in good working order. On the program's first day, the administrator will test the projectors and the computers, check that the right pads are on the flip chart easels and that the magic markers actually write. He or she will verify that the correct handouts and transparencies and films are in the room; ensure that the proper binders are at the participants' places; check the name tags and table tent cards; and check the ventilation and the lighting. All of these steps—the training version of kicking the tires on a used car—are something the experienced instructor will want to do as well. It may well be that the administrator can leave them entirely to the instructor. The point is that the checking has to be done, on the spot and in detail, so that participants can learn as effortlessly as possible and so that the instructor can instruct as planned.

Principles and Issues

For reference purposes, facilities plans are offered here for the most common program formats and delivery approaches. Decisions about facilities are part of program design and development, and a layout similar to one of the following is to be expected in the leader's guide. In reviewing the facility choices listed below, consider the following principles and issues:

- The role of tables. A table is useful for reading or writing. However, it may be a barrier between the instructor and training participants and/or among the participants themselves. Consider how you feel in a group where tables (or desks) are available—and when they are not.

- The position of the program facilitator. Should the trainer sit or stand? Is a lectern needed? Should the trainer be in front of the group or behind it? Is the trainer *part* of the group or its leader? Can everyone see the trainer? Can everyone see the audio-visual materials?

- How to provide for break-out groups. Large groups often need to separate into small discussion or task groups. Depending upon the size of the main facility, these small groups can meet in specified corners of it or move as a group to another nearby room to perform a task.

- How many chairs are needed? The answer to this question is to have *exactly* enough chairs for everyone—no more, no less—so there is room for all but no obviously missing persons. Most facilities will ensure that extra chairs are available—but out of sight—to add as needed.

- The desirability of seating instructions. Most programs ensure that participants know they are welcome—and expected—by providing name tags and/or seating instructions, usually in the form of pre-printed tent cards as name plates at specified seats. Name tag and cards are valuable when participants do not know each other. They ease introductions, and pre-placed tent cards also solve the question of where to sit, as well as tell participants who is sitting next to them.

Room Arrangements

By definition, learners in a lecture setting have low involvement with each other. Contact with the lecturer is often limited to a question and answer period. It is important that learners be able to see and hear the trainer. Any support equipment—flip charts, overhead projectors, VCRs, and the like—should likewise be easily accessed. Any number of different seating arrangements may be appropriate. Figure 10-6a shows sample seating arrangements for lectures for different size groups and various support technologies. Figure 10-6b shows sample seating arrangements for panel discussions.

Room Arrangements for Lectures and Panels

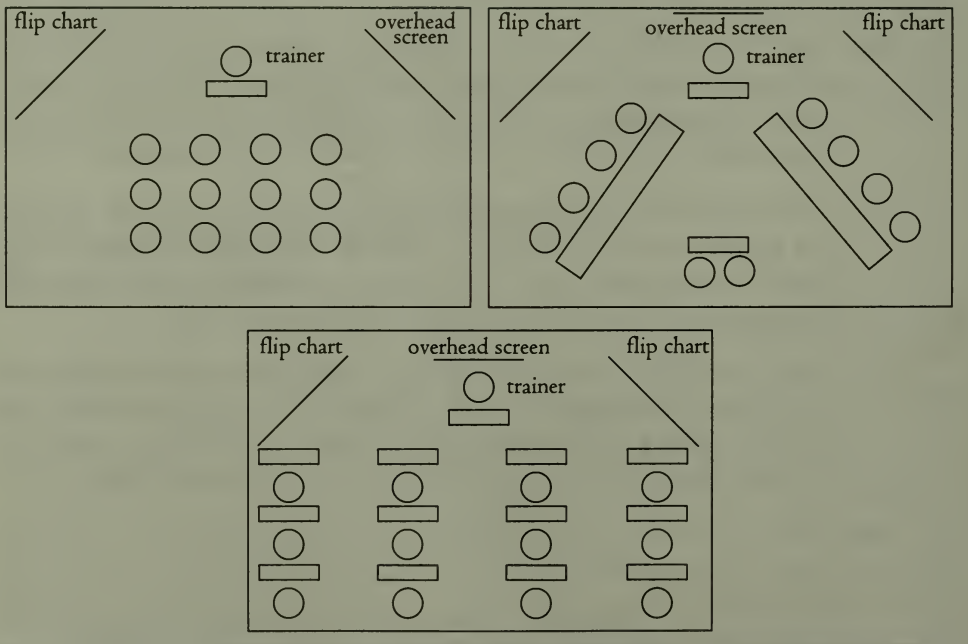


Figure 10-6a Seating configurations for large and small lecture groups

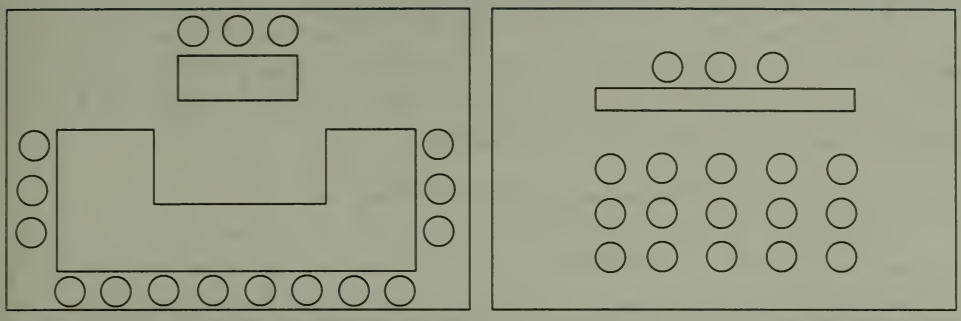


Figure 10-6b Seating configurations for panel discussions

Room Arrangements for Small-Group Work

Small-group work can be used as a lecture break or as the primary instructional method. In small groups, trainer contact varies, depending upon the task at hand. As Figure 10-7 shows, in some instances a trainer takes a strong leadership role, and in such cases the trainer and his/her support tools must be easily seen. In other instances the trainer becomes part of the group, and line of sight is not an important issue.

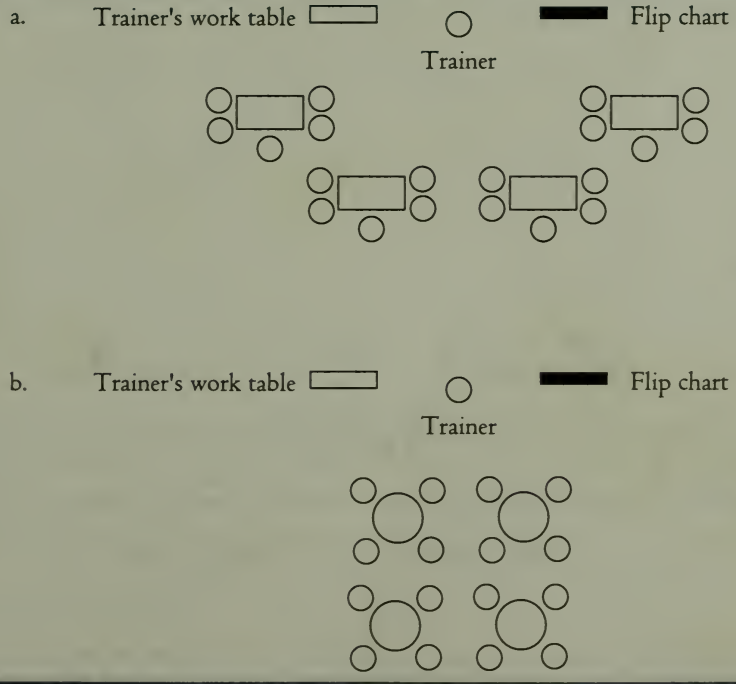


Figure 10-7 Seating configurations for small-group work

Seating Configurations for Problem-Solving Sessions

Problem-solving sessions require high involvement on the part of participants. Whether or not the trainer is a team member or a group facilitator is an important variable that dictates the location of tables and chairs. Figure 10-8 shows seating arrangements illustrating these points.

Room Arrangements When Computers Are Used

In addition to these traditional arrangements, when participants each use computers—either as the basis for what they are learning or as the basis for group processes, additional care must be taken to ensure space for the equipment (see Figure 10-9). Another consideration in designing computer training rooms is whether or not the trainer needs to—or should—see the participant's computer screen. If the session were a course on desktop publishing, the trainer would want full view. However, if the group were using group support systems, a trainer's view of screens could affect participant anonymity.

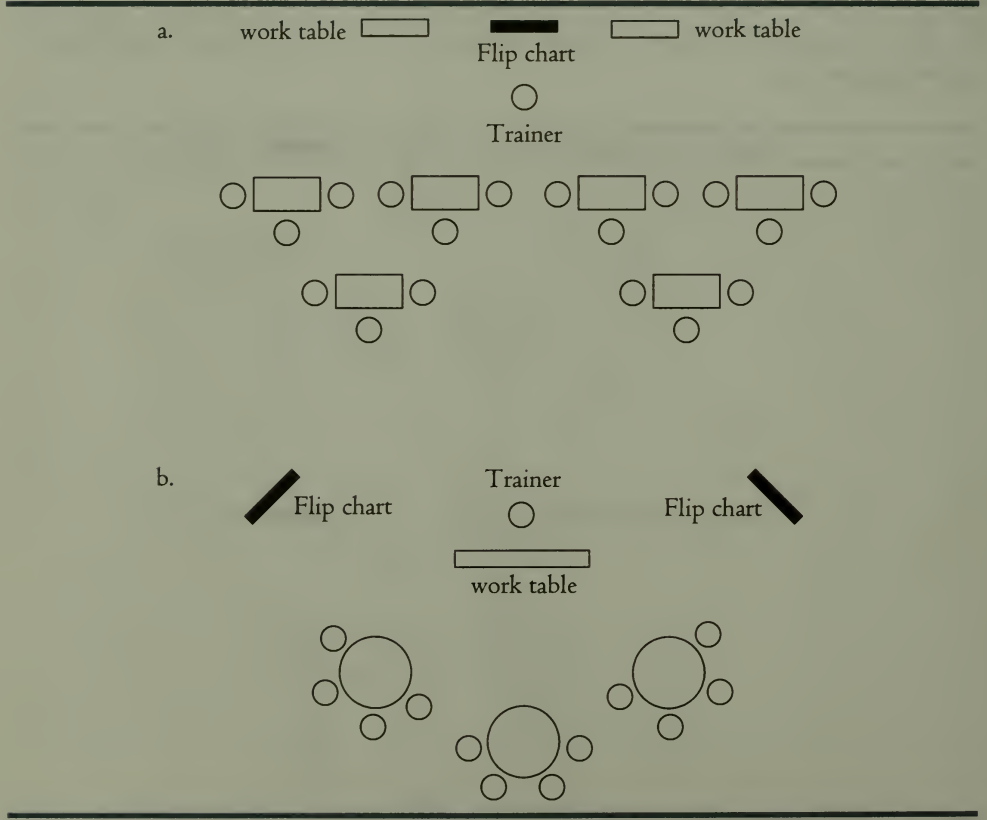


Figure 10-8 Seating configurations for problem-solving sessions

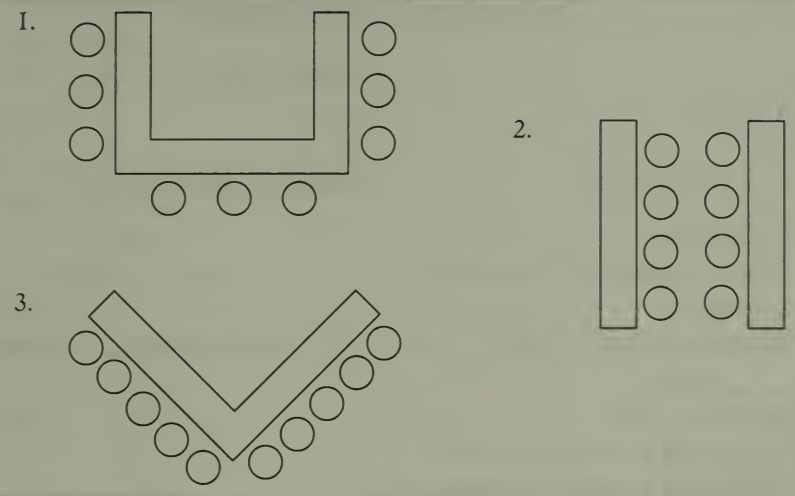
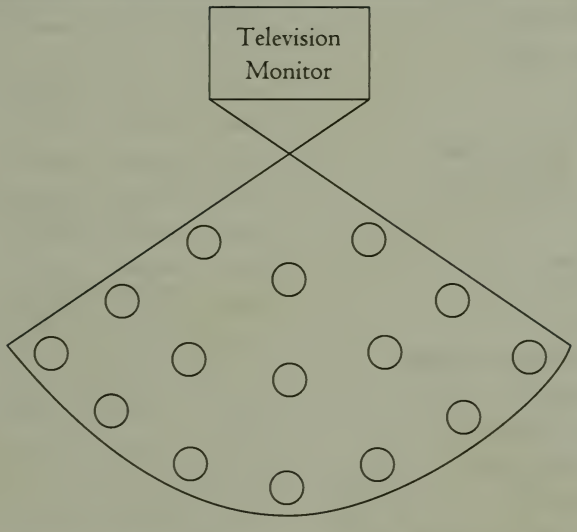


Figure 10-9a Seating configurations when computers are being used



Notes: The furthest participant should be no more than 1 foot per screen size inch (25″ TV = 25′ furthest viewing distance). Monitor height should not cause more than 30° head tilt for nearest viewer.

Figure 10-9b Seating configurations when television monitor is being used

A Facilities Checklist

One way to be sure that facilities are set up correctly is to develop a worksheet, such as the one in Figure 10-10. This worksheet serves as a reminder list as well as a completion check-off sheet.

ADMINISTRATION GUIDE

Client: Contact:
Program Name: Date:
Location:
Number of Participants: Number of Instructors:

Facilities Checklist

_____ Main Conference Room (MCR)
_____ Lounge(s)
_____ Break-out room(s) (BR 1 . . . 2 . . . 3) to accommodate ____ teams of ____ people.
_____ Instructor office
_____ Telephone in instructor office
_____ Wall clock in main conference room

Equipment Checklist

	MCR	BR1	BR2	BR3
_____ Flip chart easel	____	____	____	____
_____ Flip chart paper				
blank	____	____	____	____
grided	____	____	____	____
_____ VCR (¾″)/monitor	____	____	____	____
_____ VCR (½″)/monitor	____	____	____	____
_____ Camera	____	____	____	____
_____ Microphone	____	____	____	____
table/floor	____	____	____	____
lavalier	____	____	____	____
_____ Blank videotape cassette (90 minutes)	____	____	____	____
_____ Audiotape recorder	____	____	____	____
_____ Blank audiotapes (90 minutes)	____	____	____	____
_____ 35 mm slide projector and screen	____	____	____	____
_____ Remote control	____	____	____	____
_____ Overhead projector and screen	____	____	____	____
_____ Blank transparencies	____	____	____	____

(*continued*)

_____ Transparency markers	____	____	____	____
_____ Microcomputer	____	____	____	____
_____ Data projection device	____	____	____	____
_____ Printer	____	____	____	____

Standard Materials	Number
_____ Pens/Pencils	_____
_____ Writing pads	_____
_____ Participant binders	_____
_____ Participant registration forms	_____
_____ Felt tip markers	_____
_____ Masking tape	_____
_____ Pencil sharpener	_____
_____ Stapler/staples	_____
_____ Post-it note pads	_____
_____ Thumb tacks	_____
_____ Paper clips	_____
_____ Scissors	_____
_____ Rubber cement	_____
_____ Ruler	_____

Special Materials

_____ Prepared flip charts
_____ Timer
_____ Instructional game files
_____ Shoelaces (#)
_____ Popsicle sticks bunches (#)
_____ Videotape(s) Name: _____

_____

_____ Case(s) Name: _____

_____

_____

Room set-up diagram (provide separate sheet)

Figure 10-10 A sample checklist to assist facility administration

Step 6: Supporting the Actual Delivery of Instruction.

Logistical responsibilities are usually completed for the most part once a program gets underway. There are times, however, when delivery requires a certain amount of ongoing support. A program of mediated instruction, for example, will require the administrator to make sure the needed self-study materials are available according to schedule: the next videotape is on hand, or the next workbook, or the next reading assignment. Programs of live instruction sometimes also require an administrator's assistance—to tally some data, to operate a hand-held video, to set up a movie, to provide certain materials just at the right time. The requirements here are generally rather light, not very demanding, not of the same order of magnitude as the pre-program support needs.

One particular in-program requirement deserves a bit of attention. Program administration often entails taking care of food and drink. This is usually not a requirement for mediated instructional programs, but most live programs offer participants refreshments at breaks, often lunch of some sort, maybe a continental breakfast, and even perhaps a cocktail hour or formal dinner on an evening or two. This component of training support will vary from program to program, and from one organization to another. Whatever the specifics are, however, the task here is quite straightforward, and many organizations have a cafeteria or food service of some kind that an administrator can turn to provide whatever is necessary. Once again, the administrative necessity is making sure adequate planning is done and that what has been planned is implemented efficiently.

Step 7: Supporting Evaluation

The final administrative support for a training program concerns its evaluation and any followup that its design calls for. Sometimes a training department will want the evaluation forms completed by program participants to be summarized in a report. The same can be said of followup evaluations collected from program graduates after they have returned to their jobs and had some time to use the knowledge or skills acquired in training. Figure 10-11 shows a summary of evaluations collected at the end of a program. The example demonstrates how ratings are averaged, as well as how participant comments are captured verbatim.

Summaries of evaluations should not be overvalued; they should not be viewed as hard, statistical data. The ratings summarized, after all, simply reflect participant reactions and are only as objectively valid as those reactions. On the other hand, such summaries are a good way to highlight any consistently negative findings among participants with regard to either program design or delivery. A pattern of such negative findings may well indicate areas where training management needs to make some changes. Such a pattern may also trigger a memo to

1. ***Please rate each of the following items to indicate your reaction to the session. If rank is less than average, please comment on the back of the form.***

	Poor	Adequate	Average	Good	Excellent
Program Content (Concepts, facts, skills, procedures, knowledge, etc.):				7	5
Applicability to your job, responsibilities and needs:				10	2
Sufficiency of examples and chances to practice in order that you be able to apply new skills or knowledge back at work:			2	9	1
Use of activities and materials in order that learning be easy and enjoyable:			1	9	2
Opportunity for discussion with other participants to exchange experience and ideas:			3	5	4
Length of the program relative to its objectives and the needs of the group:		1	3	7	1
Appropriateness of pre-session information, materials, directions. Did you know what to expect?:			9	3	

2. ***Which part of the program was of most value to you? Why?***

(7) **The Acumen feedback -**

- The Acumen feedback gave an insight of what I do and what my subordinates expect
- Lots of interesting comments and solutions were thrown out
- Hear what staff expect and find areas to improve
- Able to start to refocus and address relevant issues
- Understanding my perceived weakness by myself and the subordinates so that I can identify area for improvement
- The Acumen data discussion is useful to analyze our skill
- Since it gives me a chance to look into myself, and how my people think about me

(*continued*)

(5) **Role Play**
- The role play cases helped better understanding to the organizational issues
- Stimulate interaction and prompt new practice
- The various role plays which are interesting, provocative and relevant
- Case study and role play are valuable to me to understand better
- Give a chance to see how others use different approaches

(1) **Managing upwards** – my role requires substantial involvement in key issues for the trade business in a changing market

(1) **The references materials** which are comprehensive

(1) **Group discussion** about each individual's observation on each other because can listen with really open mind

(1) **Group discussion** – all the behaviors of the teammates are clearly exhibited because of the assignment

3. Which part of the program was of the least value to you? Why?

(1) **Case studies** – Gotham/Star War
- too hypothetical, comments from participants are easier said than done

(1) **Managing Individual Performance** – too little time

(1) **"Skill Model/Visioning** – not clear objective/instruction

(1) **Managing Business Performance** – although I found it very interesting, I'm on the Ops & Sys side and don't really manage a business for revenue generation. On the other hand I do manage a unit within expense targets and productivity levels

(1) **Growth Model** by different phases – a simplistic way at putting complicated comparison and dynamics

(1) **Team exercise** to act out solutions for Chapman case – don't see the value in it

(1) The part where we had to discuss our **history and goal.** The time was too short (understandable) and it was difficult to put across your thoughts, visions, ideas, with a person whom you met just 3 days back

(1) **Managing co-workers** – we are a well-known team with the same goals/customer focus

(3) NIL

4a. Please use the following scale to comment on each instructor's ability to lead the program, where:

1 = Needs Improvement 2 = Adequate 3 = Good 4 = Excellent

(continued)

Instructor: #1

	Item	1	2	3	4	Avg.
(A)	Organization/preparation of subject matter		2	2	8	*3.50*
(B)	Presentation of subject matter	I	I	2	8	*3.42*
(C)	Clarity of instructions	I		5	6	*3.33*
(D)	Ability to control time			4	8	*3.67*
(E)	Ability to link content to your business	I		9	2	*3.00*
(F)	Ability to simulate productive discussion			7	5	*3.42*
(G)	Ability to create a productive learning environment		I	5	6	*3.42*

Instructor: #2

	Item	1	2	3	4	Avg.
(A)	Organization/preparation of subject matter			3	9	*3.75*
(B)	Presentation of subject matter			3	9	*3.75*
(C)	Clarity of instructions			4	8	*3.67*
(D)	Ability to control time			3	10	*3.77*
(E)	Ability to link content to your business			9	3	*3.25*
(F)	Ability to simulate productive discussion			6	6	*3.50*
(G)	Ability to create a productive learning environment			5	7	*3.58*

(continued)

4b. Please add your comments on the instructor's ability to lead the program.

(1) I was skeptical coming in and enlightened going out! Both instructors did well in helping me overcome my skepticism
(1) Generally both are very experienced
(1) Both the instructors led the program well and as a team
(1) They are really professional on managing this seminar. Really thanks for the things I've learned during the seminar
(1) I learned a lot for the good way to facilitate/lead a meeting/class from the two instructors
(1) Both instructors are excellent facilitators
(6) No comment

		1	*2*	*3*	*4*	*Avg.*
5	How would you rate your overall reaction to the program?			8	4	*3.33*
6	How would you rate your level of skill or knowledge:					
	a. Before the program		10	2		2.17
	b. After the program			10	2	3.17

7. *Other Comments:*

(1) Very good learning experience, esp. productive for the group discussion
(1) It was an excellent experience. A great and rewarding experience
(1) Each countries/LOBs have different cultures and objectives. due to the limited time, I think these differences on managing people/business are not well instructed
(1) Somewhat insufficient time period for the class
(2) Can the program be shortened to 3 days? It lasts too long
4 days is long
(1) Need to modify to cope with Chase Vision
(1) Unfortunately I am very tied up by my office work and have not much time to prepare for the case studies. Prefer to attend the course out of town and that with more participants from my LOB to share more relevant experience
(5) No comment

Figure 10-11 Evaluation summary

participants thanking them for their feedback and explaining changes made on the basis of their suggestions.

The Training Budget

Creating and controlling a budget for training is a major administrative responsibility for the training manager. The budget covers all the phases of the Training Cycle (see Figure 1-7A), with funds requested to carry out the cycle in a particular budget year. The actual budget—the funds granted in response to this request—reflects the organization's appetite for training or how much of its resources it is prepared to devote to training as the means for its people to learn what they need. It is thus crucially important that training management work hard and continuously to position training in the minds of its internal customers as support for learning. Thus, the training department is not merely the source of classroom programs or the department where teaching is done, but is a management resource that helps employees learn what the organization needs them to learn and helps that learning occur quickly, cost effectively, comfortably, and effectively.

When budget cutbacks occur, the perceived, cynical wisdom among trainers is that training money is the first thing to get cut. This is often true. It is also often only half the story. Cuts to the training budget are frequently followed by another phenomenon. Later on, after the cutbacks are over, if the organization needs people to learn something—if there is a clear need for training—the dollars for it will somehow be found. They may come out of the supplies budget, they may be drawn from contingency money, they may come from a manager's discretionary fund, *but the dollars will be found.* The unmistakable lesson in this is that when learning is clearly seen to be needed, it will be funded. Needless to say, the time for training management to argue that its function is to enable a0s maximize learning is *not* when budget cuts are announced. The point should be made constantly, on a non-crisis basis, and above all should be backed up by a track record that makes the argument more strongly than any words can.

Centralized and Decentralized Approaches

Organizations allocate funds to training in basically two different ways. Sometimes all the dollars for training are placed in a central budget, to be dispersed in the most efficient way possible by training management for the organization as a whole. Sometimes an organization decentralizes its training funds. The training department is allocated enough money to run itself—pay its people and its overhead, buy supplies and services and space. The money necessary to pay for actual programs, on the other hand, is put in the budgets of line departments which then pay for training as needed. In this latter scenario, the training department typically charges internally for its services, a process usually called a *chargeback.* The charge-

back can be simply a proportionate per-participant share of the cost of running a particular program, or it can be a fixed cost the training department establishes as a kind of tuition.

The centralized approach to the training budget is generally more efficient in terms of program planning, rollout and resource planning/usage, and is certainly the approach to be used when the training department is organized as a teaching faculty. The focus of the decentralized approach is effectiveness rather than efficiency; it has the advantage of putting the program money where the learning need is. This helps ensure that what the training does is what the line departments see as needed. (They, after all, have the money.) In the decentralized approach, the training department tends to be organized as internal training consultants, training analysts and brokers.

Strategic Funding

In either case, especially in the decentralized approach where a short-term focus can all too easily prevail, training management should set aside money for *strategic training* (see Chapter I for a fuller discussion of strategic training). There are things people need to learn which offer no immediate, short-term payback: entry-level training to feed the talent pipeline, orientation to the organization's culture, awareness of other departments and projects, the training necessary for infrastructural programs that lay the groundwork for future organizational growth and success (new buildings, new telecommunications, new products). This kind of learning is most effectively funded by a training budget under control of management at a senior enough level to appreciate the need for and value of strategic initiatives. The learning demanded by these kinds of organizational requirements will be supported by a *strategic* perspective, not the short-term, business-results-oriented focus of operational line management. Thus, budget authority for strategic training should be lodged with strategic management.

Budget Categories

There are no hard and fast rules concerning the proper *budget categories* for training, sometimes referred to as *budget accounts* or the *chart of accounts*. Organizations define and set up categories in a wide variety of ways. The following list of budget categories are those used in a recent calendar year for the annual budget of the Corporate Education Department at Chase Manhattan Bank. Other organizations may use different terminology for budgeted items and categorize items differently, and the categories themselves can change over time, but this list is a representative sample of the types of expenses a manager of training needs to provide for in a training department's budget. Each budget category is briefly discussed to clarify its meaning. No attempt will be made to offer guidance as to sample dollar figures for these categories, since appropriate amounts are a function of time, place, and circumstance.

Sample Training Budget Categories

1. *Salaries*: the annual salaries paid to members of the training department. This budget category is often subdivided into clerical support staff vs. trainers. Sometimes managers are split out from the whole. Sometimes full-time workers are handled distinct from part-timers. Funds for temporary workers can be included here, or may be put in the consultant category.

2. *Benefits*: the cost of benefits—e.g., paid vacation, health and life insurance—provided to its employees. This is typically a percentage of salary determined by the organizations financial controllers and/or its benefits staff.

3. *Staff development*: the cost of professional development for the members of the training department. This is partially an aggregate of the individual development plans of department members. Money is also often added for development deemed necessary by management for needs which are not a function of individual development interests. An example of this latter is funding for the training necessary to put new desktop software into all the department's workstations, a step that necessitates re-training everyone from old software to new. The category includes memberships in professional associations, subscriptions to professional journals, and attendance at conferences.

4. *Recruiting:* agency fees and any other costs associated with hiring new people. Other costs included here are travel for candidates or recruiters, as well as recruiting brochures and other marketing material.

5. *Consultants*: fees paid to consultants for work in the department, plus applicable travel expenses. These costs are often put in subcategories that reflect the purpose for which consultants are hired: design, delivery, evaluation, a specific project or program. etc.

6. *Furniture and Equipment*: the cost of adding, replacing, repairing or renting furniture or equipment for use in the training department or its programs. Note that an organization typically has rules and procedures

to determine if a piece of equipment or furniture is a capital expense or not. If an item is treated as capital (e.g., a large-scale, sophisticated copier), then the annual depreciation for it is included here. Computers are included here; software is sometimes here, sometimes in a separate category.

7. *Occupancy*: the cost of the building space occupied by the training department. Very often included here are heat, light, and ventilation. This is usually a non-discretionary item, the amount supplied by internal accounting or the building department.

8. *Marketing*: money the training department spends to advertise itself and its programs. An example is a brochure used for a desk drop or given out as part of new-hire orientation.

9. *Communications*: the cost of telephones—equipment, repair, calls—as well as fax equipment and supplies, e-mail, memberships in public networks or news wires, and all usage charges.

10. *Supplies*: the pads and pencils and sundry other items the department needs for members to function. Supplies for programs and supplies for staff are often divided into separate subcategories.

11. *Postage*: the cost of the department's outgoing mail, special attention to express courier costs and the shipping of program materials.

12. *Travel*: travel expenses incurred by department members in the conduct of business.

13. *Entertainment*: the costs involved in providing food and refreshment for training programs, hosting guests of the department or perhaps interviewing candidates or potential consultants.

Once budgeted funds are allocated to the appropriate categories, the training department uses these same categories to track spending across the year. A spreadsheet report is typically generated each month which lists the categories, shows the annual budget amount for each, the spending in the category done in the current

month, plus the year-to-date aggregate and the balance left for the remainder of the year. Final columns in the spreadsheet are often a calculation of whether the year-to-date figures are over or under what they should be, plus a forecast of what the final spending in the category will be. All organizations have policies, methods, formats and forms established for tracking and reporting financial data, and a training manager should simply follow the organization's lead in these areas. Reported financial information is a tool for the customary management processes: slow down spending or speed it up, re-allocate funds from one category to another, or analyze the reasons for the spending level in a category of particular interest. Most organizations, for example, keep a very watchful eye on consultant costs.

Estimating Costs

One final budget issue is that of estimating the cost of particular programs. Figure 10-12 shows a blank program cost estimation worksheet used in the Corporate Education Department of Chase Manhattan Bank (the worksheet is programmed in Lotus 1-2-3).

Note that the categories of program expense provided here form a generic template. Not all costs are necessarily used for every program. Note also how the estimation sheet aggregates expenses in the larger categories of variable, fixed, and total costs, and provides an estimate of cost per offering ("open session," on the worksheet). Actual dollar figures must be plugged into this worksheet, such figures a function of time, location, and economic conditions.

Note finally that this cost estimation template does not include trainee salaries as part of the cost of a program. Some organizations add trainee salaries to program costs, arguing that including their salaries gives a true and complete picture of what training actually cost. Other organizations ignore trainee salaries on the grounds that the trainees would be paid anyway, whether they are in training or not, and thus their pay should not be viewed as a true training cost. The important thing is that a cost estimation worksheet puts structure and consistency around the establishment of costs for budget requests. The cost estimations may well get more accurate with time and experience. They will clearly benefit from the structure of a common cost estimation template.

Training Reports

On some regular basis, usually monthly, a training department will report its program activity. Programs are listed, perhaps in appropriate categories of training, with totals shown for each category and for the department as a whole. The report typically details the number of programs and participants for each program and category listed (cancellations and costs are sometimes included). Figure 10-13 shows a sample of such a training activity report for one category of training

Costing Worksheet

1	Product: skeleton		0	
2	Lgth (dys)		0	
3	# sessions		0	
4	#p's desired @ session		0	
5				
6	total year's expected p's			0
7		ITEM	#	Tot Yr
8		COST	for yr	Estimated $
9	VARIABLE COSTS			
10	Consultant costs			
11	Instructor Fee	$0	0	0
12	T&E Costs	$0	0	0
13	Video Ass't	$0	0	0
14	Other	$0	0	$0
15	**Tot Consultant Costs**			**$0**
16				
17	Supplies			
18	Binder/Repro		0	$0
19	Giveaways		0	$0
20	Vendor Package	$0	0	$0
21	Videotapes		0	$0
22	Other	$0	0	$0
23	**Tot Supplies**			
24				
25	Post/Ship	$0	0	$0
26	Followup/Reinf	$0	0	$0
27	Evaluation	$0	0	$0
28	Other	$0	0	$0
29	Contingency	$0	0	$0
30	TOT VARIABLE COSTS	**$0**	**0**	**$0**
31				
32	^FIXED COSTS			
33	Video/Film			$0
34	Software			$0
35	License			$0
36	New Binder/Pkge			$0
37	Other			$0
38	TOT FIXED COSTS			**$0**
39				
40	*TOT YEAR EST COSTS*			**$0**
41				
42	Tot # P's expected this yr			0
43				
44	RAW COST (cost/tot # p's)			
45				
46	ADJUSTMENT +/–			$0
47				
48	OPEN SESSION COST			**$0**

Figure 10-12 Lotus 1-2-3 Program Costing Worksheet

in Chase Manhattan's Corporate Education Department, the Individual Development Portfolio. The report was produced in September of a particular year, and shows activity as of that month (year-to-date) against the year's plan as a whole ("This Year's Plans"), including program activity where none was planned. The report also shows the current estimate of program activity by the end of the year—"Current Year Forecast."

The value of this kind of report is that it is a tracking tool for training management. It enables managers to view training efforts against plans and against the expected future. Are programs going as planned, and if not, why not? The report can be used to map activities against priorities and adjust resources accordingly. It permits a manager to calculate ratios like cost-per-program day or participants-per-staff-member. These kinds of ratios serve as useful measures of efficiency and productivity, especially when measured consistently against data from previous calendar periods. It is important to remember that these reports have to do with activities, not results. While activity must be tracked and controlled, the real training issue is always the impact of training results on the organization's functioning: Do training outcomes affect the organization's operation? Do they help people do their jobs and grow their careers? Do they move the organization in planned/desired directions?

One very useful report of results is a training transcript. The training department should be able to produce a transcript of training completed by individual

Individual Development Portfolio

	This Year's Plans		Year-to-Date 9/30		Current Year Forecast 12/31	
Programs	# pgms	# ptcpts	# pgms	# ptcpts	# pgms	# ptcpts
1. Presentation Skills	22	176	17	121	23	169
2. Instructional Skills	6	48	8	66	9	80
3. Writing Skills	4	96	5	95	7	131
4. Managing Personal Growth	6	144	4	81	6	114
5. Negotiations Skills	6	108	5	80	7	112
6. Influence Skills	6	96	5	75	8	127
7. Responsible Decision Making	0	0	3	48	3	48
8. Equity at Work	6	100	6	99	6	99
	50	668	53	665	69	880
	Projected Programs and Participants		Actuals Year-to-Date		End-of-Year Forecasts	

Figure 10-13 Training activity report

employees, information helpful for career planning and tracking by individuals and their managers. Figure 10-14 shows a sample transcript from the *Registrar* registration system.

The production of a transcript is a simple matter for the kind of registration systems mentioned above (*Registrar* is merely one of these). These systems also have the capability of providing training records for input to a central employee file. When the organization has more than a single training department, the matter of centralizing training data must be given careful thought. The issue is one of values and priorities, a cultural and organizational decision, not a technical one. Does the organization want this kind of data to be kept centrally? The benefit of

Registrar Standard Report Transcript

name:
ss#:
department:
bld_addr:
floor:
area code:
telephone:
expense #:
official title:

job title:
salary level:
manager's name:
personnel area #:
personnel area_desc:
sex:
ethnic:
filler:

CLASSES

Dates Registration Processed				Action Dates
09-28-92	TQM016	TEAM FACILITATOR	C	08-20-92
06-15-92	TQM010	TEAM LEADER INSTRUCTOR	F	06-23-92
05-19-92	ACT001	ACTIVE COMMUNICATING: PROF PRESENCE & CRE	C	05-21-92
04-04-92	TQM013	TEAM FACILITATOR	C	04-27-92
03-16-92	TQM009	TEAM LEADER INSTRUCTOR	C	04-16-92
01-29-92	CMT001	CONTENTION MANAGEMENT	F	07-09-92
11-28-88	RDM000	RESPONSIBLE DECISION MAKING	F	11-28-88
04-11-88	EMP000	CHASE EXPERIENCED MANAGER PROGRAM	F	04-11-88

Note: C = cancelled; F = finished.

Figure 10-14 Sample registrar transcript

doing so is that data about training accomplished by an individual, a particular department, or the organization as a whole is readily available. When the answer to this question is no, training data is left decentralized, making it harder to get an organization-wide picture of training. Some organizations decide that it is simply not worth the collective effort necessary to create and maintain a centralized training data base on an ongoing basis.

Another dimension of training reports has to do with business results. Have the sales training programs had an impact on sales? Are sales up? Is the number of software bugs down following the introduction of structured programming and CASE tools and the training in them? Has the number of customer complaints dropped since we introduced our training program in customer service? These are ultimately the kinds of questions to which training management will want to respond. The answers depend on making sure that these outcomes are specified up front, at the planning and design stages of training. Looking for these kinds of results must also be done with the awareness that many factors can contribute to an increase in sales or a decrease in defects. While a results-orientation is the ultimate bottom line for training (as for most organizational decisions), care must be exercised to ensure claims are realistic. Reports concerning business results based on training are best done by gathering impact data from trainees and their managers a month or two after training completion. These reports are not usually statistical worksheets of numbers in columns. Such reports are the thoughtful gathering and analysis of best judgments from trainees, their managers, and their clients—best judgments concerning training effects. See Chapter 3, "Evaluating Organizational Training," for a fuller discussion of follow-up evaluation strategies.

Summary

The administration of training is an important responsibility, essential to training success. The Training Administration Sequence begins with informing people of program availability, which can be done in many different ways involving both paper and electronics. Administration goes on to registration and all that is involved with it: wait lists, cancellations, participant communications, and the use of registration software systems. The next step in the sequence is pre-work, which comes in a wide variety of types and differing levels of complexity. The program administrator must then prepare instructional materials, prepare the physical facilities, and provide necessary support as instruction is actually delivered. The final step in the administrative sequence requires support for program evaluation.

The chapter concludes with a discussion of the training budget, followed by a section on training reports. The training budget is an important administrative

responsibility of the training manager. Different budgeting philosophies—centralized vs decentralized—are explained, as is the purpose and value of strategic funding. Representative budget categories are discussed in the chapter, and a sample worksheet for estimating the cost of a particular program is included. Training reports are also explained in terms of activities and results. The value and limitations of both kinds of reports are discussed, and samples of each are provided.

Questions

1. What experiences have you had where physical surroundings played a major part in the success or failure of the experience itself? (a party? a job? a restaurant dinner? a class? other?) How did the physical facilities help or hinder success?

2. What benefits to the learner (training's customer) does good administration provide?

3. How do you think the logistical needs of mediated instruction vary from live instruction? Which is generally more complex? Why?

4. Why do you think people involved in training program design and development should give thought to training administration? What sort of implications for design are there in the logistical support that will realistically be available once a program begins to roll out?

Applications

1. Identify a training administrator at a local organization and invite this individual to come talk to your class concerning the work that goes into the logistical support of training. Ask to see reports the administrator is responsible for preparing, and discuss how these reports are used.

2. Consider the impact the following have on your classes in school—janitorial or cleaning services, food service, security, housing. Talk with a teacher of your choice and ask that teacher to tell you of any experience s/he has had in which administrative service has had an impact on teaching, for good or ill. Prepare a report on your discussion for class. Draw an analogy with

the support services discussed in this chapter as typically available to a training department.

3. Research current training literature to identify the computer software available to automate registration. Contact the vendors of this software to obtain demonstration packages and show them in class.

4. Identify in the training literature any other administrative software that appears interesting and prepare a report on its benefits to be discussed in class. (Do *not* include authoring or presentation software for CBT—confine your focus to software that a training administrator would use.)

Additional Reading

Nilson, Carolyn. *Training Workbook and Kit.* Englewood Cliffs, N.J.: Prentice-Hall, 1989, 430 pp.

Excellent source of generic training forms and checklists, with intelligent discussion of the procedures that go with them.

Endnotes

1. The term "administration" in this chapter refers to the routine back-office work done in support of training, as distinguished from front-end delivery, the actual instruction. As used here, "administration" does not mean—as it often does in academic circles—the leadership or executive management of an institution.

2. Most of the forms and samples in this chapter are provided courtesy of the Corporate Education Department of Chase Manhattan Bank.

Chapter Eleven

The Trainer as Change Agent

Highlights

- The role of the trainer as a change agent
- Factors that impact the rate of change in organizations
- A technique to identify pressures for and resistance to change
- Training solutions in the context of an organizational change model
- A sampling of techniques helpful in facilitating group processes
- An organizational view of the trainer as business partner

Understanding the Role of a Change Agent

No good idea succeeds on its own merit.
—Unknown

Organizations are in a continual state of change. Competitive organizations initiate new strategies or reorganize frequently. Pushing for change are critical issues including mergers and acquisitions, global competition, new information and

communications technologies, the changing demographics of the workforce, and shifting value systems. These issues give new meaning and urgency to the need for continuous learning in organizations. Michael Hammer took the need for learning one step further in explaining that "Radical change in how work is done inevitably leads to the definition of new jobs with new skill requirements, which in turn demands new kinds of people."[1] In fact, Peter Senge says that in the long run, the only sustainable source of competitive advantage is your organization's ability to learn faster than its competition.[2]

"How [organizational] development people respond to such issues will depend upon their ability to understand the business, to understand and help manage change, and to master educational and learning processes."[3] The field of organizational development (OD) is all about helping an organization get where it wants to go. Any number of strategies are available, including temporary structures and strategies to improve communication processes. OD specialists call planned changes *interventions*, the person who wants the results the *sponsor*, and the individual or team responsible for designing and implementing interventions the *change agent*.

A *change agent* is either an individual or a team responsible for designing and implementing an innovation, such as a new technology or a new managerial process. A change agent must help translate the vision of how new ideas, new skills, and new techniques can be translated into step-by-step plans to achieve desired goals.[4] As a change agent, the training professional is an important resource when needed changes deal with modifying the skills, knowledge, and attitudes of the workforce. To adapt to these changes, for example, the organization's leaders must be willing and able to put aside management approaches applicable to past decades and learn new techniques that are appropriate for a diverse, global workplace and marketplace. It is likewise important that individuals who are expected to use new information and communications technologies be skilled in their use. In this regard, the training professional works with organizational sponsors and OD specialists and helps ensure that learners learn the right things in the right way, at the right time, and in the right priority order.

In Chapter I, the terms *strategic*, *informational*, and *operational* were used as means to describe the linkages of training strategies to organizational goals. The focus of this chapter is to describe how and when the training professional uses a toolkit of instructional strategies to ensure that needed changes, or learning, take place. To plan for organizational learning requires a keen understanding of the content matter to be learned, the individual learners, and the organization. Not surprisingly, training professionals are usually more adept at training program development and delivery (for this is what they are specifically trained to do) than the special managerial skills needed to guide new learning into use by the organization. Even the best of training programs, expertly taught, will not succeed if organizational and environmental factors are not considered and understood.

This chapter serves as a reminder that training is all about *learning*, and that training professionals have an organizational role that goes far beyond that of simply providing instruction. To help understand this role, this chapter describes some important thinking related to understanding the need for systematic, planned change efforts and strategies for forming collaborative relationships within the organization. The premise is that training is a business function, and training professionals need to consider themselves key organizational players as well as instructional specialists.

Understanding Planned Organizational Change

Learning alters the behavior or job tasks of individuals, groups, or the entire organization. Learning is the goal of training programs, and the application of learning goes beyond the training program itself. Research shows that individuals and organizations typically progress through a number of phases in integrating new ideas (knowledge, skills, or attitudes) into their work. A model is a basis for laying out a project, and serves as a reminder of the need for systematic change. Various models have been developed to describe this process, and most are variations on the basic innovation model:

innovation (the new idea)
↓
infusion (delivery strategies)
↓
assimilation (integration/use of the new idea.)

Progression through the stages of the innovation model is not automatic. Therefore, this discussion offers some useful ways to think about the major issues related to assimilating new learning: the innovation itself, the individuals who are asked to use it, and the organizational culture. Understanding these components helps explain why some change efforts are more complex than others. This section discusses Rogers' characteristics of innovations and adopters as well as categories of organizational culture that help explain the environment and the rate at which change occurs. Lewin's force field analysis is offered as a technique to help stakeholders understand the environment in which they work and thus the need for change. Lewin's three phases of change—unfreezing, changing, and refreezing—provide a framework for discussing what must be done to effect change successfully, including the timing of various steps.

Characteristics of an Innovation

Everett Rogers in *Diffusion of Innovation* explained that characteristics of both the innovation itself and of the adopter (user) influence the infusion of an

innovation. Rogers explained that the rate of adoption differs depending on five characteristics of the innovation itself:

relative advantage:	the degree to which the innovation is perceived as better than the idea it supersedes
compatibility:	the degree to which the innovation is perceived as being consistent with existing values and past experiences
complexity:	the degree to which the innovation is considered easy to use and understand
trialability:	the degree to which an innovation may be experimented with on a trial basis
observability:	the degree to which the results of an innovation are visible to others[5]

What this all means is that the higher any innovation can score on these five characteristics, the faster learning will be assimilated into the organization. Likewise, the lower any innovation scores on these characteristics, the more effort that will be needed to ensure assimilation.

Rogers compared two innovations, blue jeans (quick adoption) and the metric system (slow adoption). Describing these innovations by their characteristics, it is easy to see why nearly everyone wears blue jeans but few people in the United States have completely adopted the metric system. Blue jeans offer *relative advantage* in that they are more comfortable and rugged than other pants. Blue jeans can be worn with almost anything so they are *compatible* with the way we dress. Because blue jeans are simple to care for, they are *not complex*. Blue jeans are *trialable*, as they are inexpensive—at least until designer jeans came along, and they are *observable* since nearly everyone wears them.

The metric system, on the other hand, replaces a system that is still functional, so the system offers little *relative advantage*, and is not necessarily *compatible* with the way we have always measured weights and volume. Learning the metric system is *complex* and its use requires study and practice. The metric system is also difficult to experiment with (*trialability*) as it requires a major conversion effort. Finally, the metric system does not physically change objects, only the way they are measured, so its benefits are not easily *observable*.

Using these characteristics to describe organizational innovations, it is easy to see why learning about word processing is more readily assimilated into use than learning resulting from programs on managerial skills. While there was a time when only "innovators" or "early adopters" (see the next section) used word processing software, today, because outcomes of its use are so readily *observable*, nearly every-

one in organizations today uses it as a writing tool. Word processing software holds a *relative advantage* over pens and typewriters as the use of word processing software greatly eases the writing and document preparation process. Using word processing software does not change the need for keyboarding (skills are *compatibile*). Because it is not a *complex* skill, most learners can begin using basic word processing skills immediately. Often, learners can *try out* the software before they commit to a particular package.

On the other hand, outcomes of training programs designed to alter management skills are not necessarily perceived as better than the old way (little *relative advantage*). Moreover, new managerial skills may not be *compatible* with the way managers believe people should be managed or compatible with the organizational culture. Management skills are *complex*. To *try out* new skills may be very risky, and managerial skills are more difficult to *observe* than performance activities. Delegating once closely-held duties, for example, can be a risk if the duties are not performed as expected, and this delegation may not be observable to the rest of the management team.

Characteristics of the Adopters

Rogers also suggested that planners should take into consideration the characteristics of individuals who will be using the innovation. The following description of the overall population[6] explains why training programs themselves may be well received, but their outcomes never achieve their intended productivity benefits. Also, understanding differences among adopters can help training professionals target individuals for pilot programs.

Innovators: Risk takers. They want to learn everything. They are the first to try something new. They make up 2.5 percent of the population.

Early Adopters: Hedgers. They wait until the innovators have proven the learning useful, but once its usefulness is shown, they are quick to implement it. They make up 13.5 percent of the population.

Early Majority: Waiters. They wait until 16 percent of their peers exhibit the new behavior. They make up 34 percent of the population.

Late Majority: Skeptics. They change their behavior only when it is well accepted by others. They make up 34 percent of the population.

Laggards: Slowpokes. They change their behavior only when their resistance gets them nowhere. They are set in their ways, and will change only under duress. They make up 16 percent of the population.

Figure 11-1 shows that adopter classification is not a symmetrical classification, as there are three adopter categories to the left of the mean and only two to the right.[7] However, note that the innovators and early adopters could be collapsed into a single category that corresponds to the proportion of laggards. Rogers made a point of explaining that innovativeness is continuous.[8] The standard deviations shown in Figure 11-1 show how these categories can be used to describe the population as a whole on a bell-shaped curve.

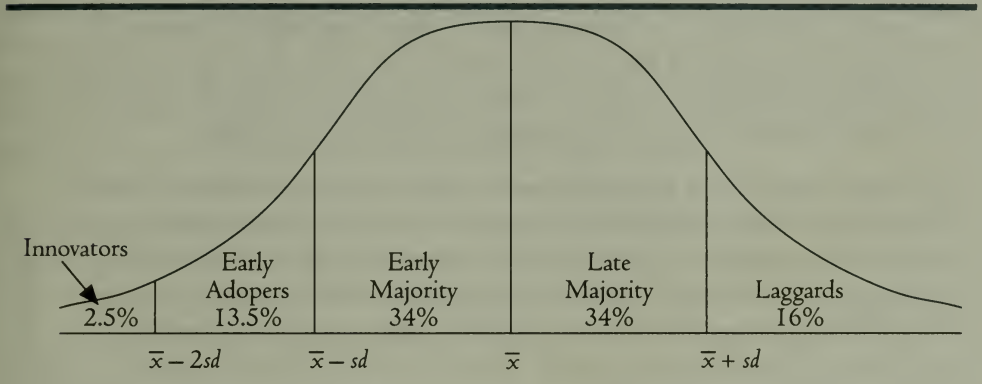


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Figure 11-1 Adopter categories

You can use these categorical terms to describe yourself and people you know with regard to how quickly software programs are upgraded, on-line information services are used, or current fashion is followed. For example, consider how long it took bank customers to use automatic teller machines (ATMs). When ATMs were first introduced, few people would use them; it took banks years to gain widespread acceptance for ATMs among their customers. Even today there are people (laggards) who will stand in line to talk to a teller rather than use an ATM which would almost always allow them to do their banking faster.

Characteristics of the Organization

The rate at which change is assimilated into an organization has also been described in relationship to characteristics of the organization itself. How an innovation is adopted into an organization reflects the organization's culture, which defines jobs, lines of authority, responsibility, accountability, and controls the flow of information. N. Dean Meyer and Associates has researched the impact of corporate culture on change strategies. Following are Meyer's definitions and findings:[9]

Traditional culture. Vertical organizational structure (top-down decision making); large organizational groupings (usually departments) structured around functions. Communications are up and down. The central staff is powerful. Decisions are made high up in the organization. Such organizations are often reluctant to recognize the need for change. Changes are made slowly. There is active resistance to change. The military offers a good example of a traditional culture.

Consensus-driven culture. Wide rather than vertical organizational structure. Decisions are made by a consensus of middle managers. Staff groups are large but do not carry as much authority as line management. A matrix organization is common. Innovations are assigned to task forces or committees. New ideas can get lost in the bureaucracy. Risk taking is limited to senior management and committees. High-tech aerospace industries such as Boeing exemplify a consensus-driven culture.

Profit-center culture. Cluster structure—small, autonomous modules with clearly stated goals. Small central staff. If the innovation is not related to business goals, they reject it, even if the return on investment is good. Overall, favorable toward innovations—payoffs of success are high. Payoffs could include profits and/or promotions. Consumer goods manufacturers, such as Procter and Gamble, illustrate a profit-center culture.

Futurist culture. Small, flat, fluid structure. Characterized by a charismatic executive and organized around a mission or new idea. Decision making occurs at the lowest possible level. Positive toward innovations, but few are implemented successfully; each person has his or her own pet project. These are small, leading-edge, creative organizations. Organizations that are entrepreneurial, such as Apple Computer in its early years, fit into this classification.

Understanding the impact that culture has on acceptance or resistance to innovations can help the trainer plan learning strategies that better ensure infusion. For example, a highly traditional organization may have work rules or policies that actually work against new management practices. To simply provide learning experiences without taking steps to ensure that individuals will be able to use the new skills back on the job would be a fruitless activity. Therefore, regardless of the type of change and culture of the organization, working closely with all stakeholders in a discovery process regarding the need for change and how to achieve it will significantly increase the rate of change and the likelihood of its long-term success. Moreover, stakeholders play a key role in the process by reinforcing and even modeling the desired new behaviors.

Force Field Analysis

Kurt Lewin's action research model—assessment, design, implementation, and evaluation—is the basis for the training cycle, described in Chapter 1. Action research has at its heart the notion that we learn from our experiences, and that

problems are best solved by those who are impacted by the problem. Lewin, a noted social psychologist, also explained that organizations are a sea of forces in motion that continually push for and resist change. Therefore, understanding the organization's learning needs can be understood by having stakeholders identify those relevant forces—both negative and positive—that are at constant odds with each other. The approach Lewin developed for identifying those elements is *force field analysis.*

Through force field analysis, an understanding of the organization and its learners at a given point in time is developed. First, the driving and restraining forces related to changing behavior are identified, as shown in Figure 11-2. Then, those things from the list that cannot be controlled are put aside. For example, the changing nature of the workforce or overall economic forces cannot be controlled. While a natural tendency to increase pressures (the left side of Figure 11-2) exist, the change agent is advised to reduce resisting forces instead.

Consider, for example, the concept of reengineering, the process of redesigning work to take better advantage of new tools and skills. This innovation is difficult to assimilate, and attempts to help (primarily through training efforts) can be interpreted as attempts to interfere. Simply proclaiming the value of reengineering is not a useful strategy. Explaining that employees need to change the way they work because of resource limitations is not enough. What is recommended are strategies that would assure prospective learners that resultant changes would be *positive* factors for them and for their organization. For example, efforts to show the target population that their quality of work life will improve could be an effective strategy.

Identifying the drivers and resisters of change is the first step to any planned change effort. Of course, once the forces are identified, they are apt to change as new drivers and resisters emerge. Because of this limitation, the concept of a workplace in equilibrium is at best a very temporary phenomenon. Force field analysis provides only a snapshot of an organization at one given point in time.

Moreover, identifying the pressures for change is important, but we change our behavior only when we are ready to change.[10] We must have a felt need to change. We modify our behavior when we feel it is important that we do so. One way to develop that felt need is to draw the needs assessment bullseye (see Chapter 1) with the target audience in the center, and have everyone who will be impacted by it *participate* in the needs analysis as well as in the solution development, implementation, and evaluation. Therefore, the role of participation is an underlying notion in describing the phases of change.

The Three Phases of Change

Force field analysis is a tool to help identify the forces at work in situations, determining what to do (the idea/innovation). The next step is to determine specific strategies and when to implement them (delivery/infusion). Successful infusion requires an understanding of *how* individuals change. Lewin suggested that

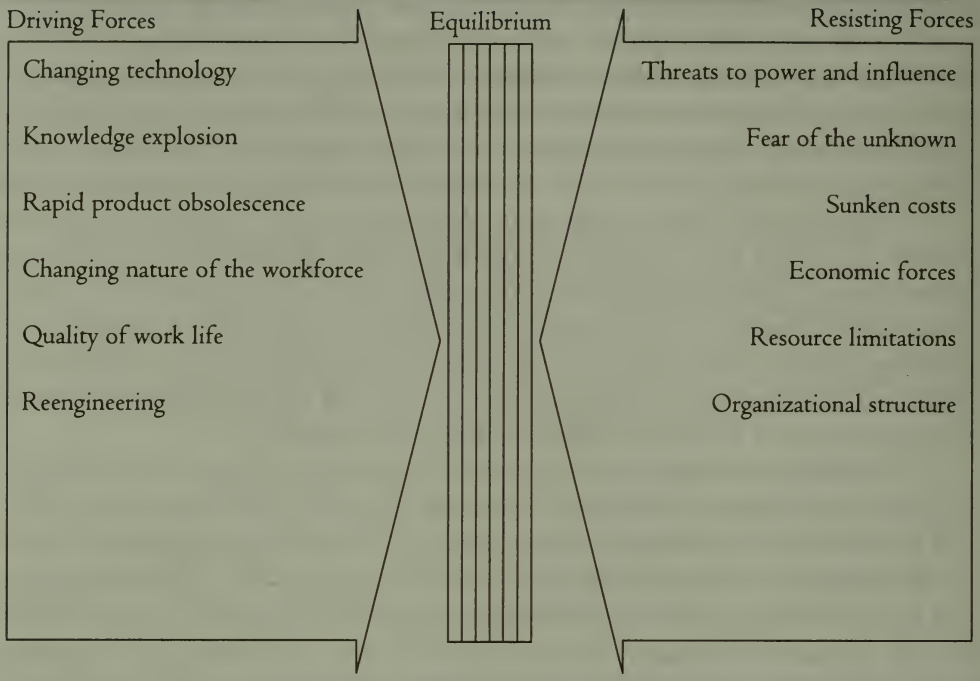

Figure 11-2 Forces driving and resisting changes in organizations

planned change efforts are made up of three phases: unfreezing, changing (or moving), and refreezing. As Figure 11-3 shows, *unfreezing* is the phase where a readiness for learning is created. *Changing* is the period where new skills are actually acquired and *refreezing* is the time when new skills are assimilated into the way work is done. Planned change efforts are all about getting people to change their behavior. The three phases of change are a useful framework for matching learning strategies to an appropriate time in the assimilation process.

Phase I: Unfreezing	**Phase II: Changing**	**Phase III: Refreezing**
Creating a felt need for change; minimizing resistance to change	Changing people (individuals and groups); tasks; structure; technology	Reinforcing outcomes; evaluating results; making constructive modifications

Figure 11-3 Lewin's Three Phases of Change

Figure 11-4 shows learning strategies that are suitable for use at the unfreezing, changing, and refreezing phases. Depending upon the situation, the strategies listed may serve double or triple duty; a book, for example, may provide an incentive to learn, or the learning itself, or it may reinforce learning that has already occurred. While instructional strategies (the change phase) may have definite start and stop dates, ensuring that learning is assimilated into the organization requires ongoing learning support strategies. It is difficult to determine in some learning situations where the unfreezing stops and the change begins or when the change phase stops and refreezing begins.

Unfreezing Strategies

At the unfreezing phase, the change agent establishes and defines the problem and assesses the client's needs, ability, and readiness to change. Attempts are made to change attitudes and mindsets by reducing the negative forces with new information. The need for the change may come from within the organization itself or be caused by environmental forces. The learner must *see* the need for change.

Phase	Change Strategies
Unfreezing	Promotional pieces Books, brochures, and journals Demonstrations
Changing	Instructional strategies; e.g.: Print-based materials Computer-based instruction Audio/video/multimedia Classroom activities: lectures, role plays, and the like On-line help Coaching and hotlines Manuals and job aids
Refreezing	Seminars, conferences Books and journals User groups Employee councils

Figure 11-4 Training as part of an implementation and learning support system.[11]

Unfreezing strategies get people ready—and willing—to learn before actual instruction (changing) takes place. At this stage, the change agent provides information that explains why the status quo needs to be reconsidered or describe new opportunities to improve work, such as new technologies.

Many different strategies for disseminating information exist, and information can be presented in a wide variety of forms ranging from newsletter items or descriptive brochures to corporate television spots. When innovations are completely different from existing practices, providing demonstrations in nonthreatening ways can be useful. The goal of information is to give people an opportunity to begin considering that a better way to do something may exist.

Again, in any change effort, stakeholder participation in the needs assessment and design stages actually serves as a means to ensure acceptance of the program at a later date. This is because people who were group members, who were consulted, or who were even just kept aware of the development of a training/change effort tend to be receptive to its implementation. Moreover, awareness and participation can help promote the change, and organizational support is often critical for true assimilation.

Changing Strategies

As used in this book, changing strategies are the learning approaches that ensure that learners can actually use an innovation to carry out existing work more efficiently or effectively. Note from Figure 11-4 that changing strategies include but go beyond instruction. To learn new skills or knowledge fully, learners often need access to ongoing support such as job aids and coaching. Throughout this phase, the learner actually learns how to change his or her behavior. Therefore, it is the trainer's role to design, develop, and implement the instructional strategy—live or mediated (see Chapters 7 and 8)—as well as to develop ways to ensure that support is available at the time it is needed.

In developing learning plans, the needs assessment data and data from ongoing evaluations are used (see Chapters 2 and 3). Plans are shared with all interested parties along the way. Therefore, training strategies that specify exactly what is to be done, when, and by whom, are not a surprise. Participation in planning also means that scheduling has been discussed openly and the training itself is introduced at an appropriate time.

An important consideration during the changing phase is that with new learning, individual learners' job performance sometimes *decreases* initially until the learner is able to take full advantage of the new way of working. Behavior changes are seldom easy. As discussed in Chapter 3, success in the classroom does not always translate into the assimilation of new skills on the job. However, trainers can work with line managers and take joint responsibility for the assimilation of

learning beyond the learning environment (the scheduled training activities). Such partnering (discussed later) helps ensure desired outcomes.

Refreezing Strategies

Refreezing strategies allow learners to take better advantages of new skills and develop new functions and activities. At this point, the new learnings are assimilated into the organization, and stabilized as "the" way to work. Learners often leave training programs with enthusiasm and excitement. However, because no good idea succeeds simply on its own merit, care has to be taken to reinforce what was learned, and ensure that learners have an opportunity to practice and develop new skills.

Assume, for example, that the innovation was a new 360-degree performance appraisal system. A 360-degree performance appraisal system is a means of providing feedback to employees based on the evaluation of their supervisor, their peers, their subordinates, and in some instances their customers or suppliers. Because it was a relatively new concept/practice, books and journal articles describing the system and its use in other institutions were distributed (unfreezing, changing) prior to classroom experiences. Once the system had been in use, employees were invited to attend special seminars, sharing experiences and offering suggestions—"here's what I've done!"—to others who are using the system. In addition, special groups discussion groups were organized—computer conferences and bag lunches—to discuss the application of the performance review process. Applying what was learned to the organizational context oftentimes is a learning experience itself—and what better teachers than the individuals who are using the innovation themselves?

The refreezing stage lasts only as long as it takes to realize that change is needed again. Referring to the training cycle, evaluation asks if the innovation did what we expected it to do. One way to determine the success of an innovation is to compare productivity measures such as costs, profits, quality, and quantity before and after the changing stage. Then the training cycle starts all over: the solution just implemented becomes the target of the next inquiry as to whether or not we are doing the right things. Ideally, another outcome of the cycle is that the trainer not only provided a solution to a specific organizational need, but learned from mistakes as well as successes at all stages and will be better prepared to solve future problems.

Forming Collaborative Relationships

The training professional's relationship with the target audience varies depending upon the philosophy of the training department, the needs of the

organization, and his or her own individual preferences. The trainer's organizational role has traditionally been that of a live instructor. This role has evolved to that of an internal *consultant* who is a learning specialist with skills in problem assessment, training design, implementation, and evaluation.

As a consultant, the training professional gives professional advice or services and is the conveyer of best practices. To consult means to advise. Consultants are expected to bring "new ideas" or best strategies to the problem solving table. It is the consultant's responsibility to keep up to date on the organization, specific content areas, and problem solving approaches. A consultant needs to know up front what clients expect, and be very specific about the anticipated results.

Therefore, in addition to being a learning specialist, a trainer must often be a *group processes facilitator*, helping groups throughout the organization define problems and develop learning solutions. The trainer's organizational role is, furthermore, evolving to that of a full *business partner* who is credible, knowledgeable, adds value to the organization, and is results focused. The skills related to being a learning specialist have been discussed in previous chapters; this section discusses skills related to performing in these latter two roles.

The Training Professional as Group Process Facilitator

Increasingly, today's training professional realizes that only in understanding the organization's needs can solutions be developed and effectively implemented. This means that the training professional works with the most informed people—often policy managers, line managers, organizational development specialists, and the target population itself—to define needs in terms that everyone understands and to work to facilitate change. Sometimes the need is best identified and solved by other means—one-on-one interviews, questionnaires, and the like. However, because the trainer may not always be the content specialist and because people must feel a need for change (unfreeze) before they will learn new ways to work, there is much value in the trainer learning how to facilitate group communications and decision making.

All business relationships require process facilitation, whether the relationship be interpersonal relations, long-term teamwork, or organization-wide change efforts.[12] While the techniques vary, process facilitation involves clarifying purposes and goals while ensuring trust.[13] As a facilitator, the role of the training professional is to lead a group in a problem solving process. Process facilitation is an art as well as a science. Wise problem solvers spend more time pinpointing the problem than in implementing ad hoc solutions. After all, why develop a training program (a solution) to improve the selling skills of insurance salespeople, for example, if the problem is really related to ensuring that they have up-to-date information on rates and benefits?

A group's ability to solve problems is considerable. "Two heads are better than one," and "many hands make light work" are maxims that illustrate the value of group problem solving. VanGundy (see recommended readings) identified and classified over 100 different structured problem-solving techniques. Structured problem-solving techniques can be used to ensure that all possible solutions are on the table—and that "too many cooks spoil the broth" or that "groupthink." (the tendency for some groups to agree just to agree) do not come into play. Structured problem-solving techniques can assist the facilitator at all stages of problem solving. Some techniques help groups orient themselves to the problem at hand, others help the group define a problem so that all agree on what the problem is. Other techniques are used to help a group develop alternative solutions and assess the viability of options generated. In this discussion, a sampling of frequently used techniques that support problem analysis and definition, decision making, and evaluation are described.

Analyzing and Defining Problems

Organizational problems and opportunities are identified in many ways. A line manager may identify workforce performance problems. Workers may identify new software applications skills they believe could help them with their individual or group productivity. The organization may be planning to reengineer the way inquiries or shortages are handled. The Information Systems manager may be planning to implement interactive video teleconferencing systems in the branch offices. Any number of individuals and operating units may want the attention of the training department at any one given time. Chapter I emphasized that successful training professionals focus very heavily on ongoing needs analysis to ensure that the right people learn the right things at the right time and in the right priority order. Unsuccessful training professionals jump to training solutions before determining that the real problem is being addressed.

The physical tools of the trade for structured problem solving in teams are flip charts, white boards, and increasingly, computer-based group process tool kits such as Ventana Corporation's *GroupSystems* (discussed later in this chapter). As a facilitator, the training professional has as a first objective to establish and manage the meeting process. This does not mean ignoring the content of a meeting. An understanding of the issue/problem is needed, as key tasks are to ensure that an agenda is developed, that relevant information is available, and that priority items are given the most consideration. Structured techniques can help ensure that everyone has an opportunity to participate, and that appropriate levels of consensus exist. A well-articulated organizational need or problem definition, agreed upon by those concerned, is the first step in ensuring that the right solution is developed. An overview of four techniques that can support problem analysis and definition follow.

Brainstorming. *Brainstorming* is a method of idea generation where everyone is encouraged to contribute ideas (usually orally) without regard to criticism. The concept is to produce as many ideas, one stemming from another, in a no-holds-barred environment. In some instances, a facilitator records ideas on flip charts. In other instances, brainstorming sessions are audio recorded and later transcribed to ensure that no ideas are lost.

Storybook Technique. Using the *storybook technique*, a leader presents a problem, and participants verbally generate solution categories. The leader asks idea-prompting questions about each category, and participants write their responses down on cards. With the agreed-upon categories as headings pinned to a corkboard, the leader then uses thumbtacks to pin the cards up under an appropriate category. After an appropriate number of "rounds," the group ranks ideas under each of the categories.

Nominal Group Technique. The *nominal group technique* involves the silent generation of ideas in writing. Then, in a round-robin fashion (one-at-a-time, everyone gets a turn), each participant offers one idea, until all ideas are recorded. Then, the ideas are discussed, clarified, and voted upon.

Charting. Any number of techniques exist for graphically depicting processes. *Flow charts*, for example, which break down processes into discrete steps, can be useful in identifying bottlenecks or locations for productivity improvement that would otherwise not be apparent. *Histograms* can show how often something happens. A picture is worth a thousand words. Charting data graphically can help a group focus on the problem at hand.

Figure 11-5 shows how one software developer, Ventana Corporation (Tuscon, Arizona), added the power of computers and networks to support group processes. Of special interest is such systems' ability to support dispersed groups. Increasingly, group work will involve working with people who are not in the same place at the same time. The next chapter, which is a glimpse of the future, shows how a trainer may work within such groups.

Selecting the Best Solution

The best solution is one agreed upon by all those who will be impacted by it. The ideal is to involve as many stakeholders as possible. Many procedures are available to ensure that the pros and cons of potential solutions are fully understood by all concerned. Procedures should be used to help ensure that minority opinions are heard and that the power or influence of one individual does not dominate. The same techniques for idea generation, such as brainstorming and the nominal group technique, can be used. Other systems of voting and analysis, including determining how far apart group members are or specific aspects of solutions they like/dislike can be very useful. It is not always advisable to rush for closure. When groups cannot agree, it is usually advisable to postpone making decisions or to

Electronic Brainstorming	This tool is designed to gather ideas and comments in an unstructured manner. Participants contribute simultaneously and anonymously to a discussion that can later be used as is or sorted by key words. Comments can be imported into other tools where they can be categorized and evaluated.
Vote	Vote supports consensus development through group evaluation of issues. Participants can be polled in seven quantifiable ways: rank order, multiple choice, agree/disagree, yes/no, true/false, a 10-point scale, and allocation. Results are tabulated electronically and can be displayed graphically or in text.
Topic Commenter	Topic commenter supports structured idea generation. Participants use multiple windows that resemble file folders. They open each window, write relevant comments privately, and then submit them to the group for review.
Policy Formation	The policy formation tool enables groups to develop and edit a statement through an iterative process of review and revision.
Questionnaire	The questionnaire tool allows a prepared survey to be distributed to participant workstations. Collected data can be compiled into a single report.

Figure 11-5 A sampling of computer-based tools from Ventana Corporation's GroupSystems that augment group processes

obtain more data that would help the group decide. When decisions are reached, it should be made clear that each group member is equally responsible for the decision.

Evaluating Results

Decision-making groups should not exist for the purpose of making a decision—and then simply disband. The life of a decision-making group continues

into the evaluation phase as well. Evaluation means looking back at the original problem and determining if the solution solved the problem as measured by the agreed-upon criteria for success. When decision-making groups continue working together through the evaluation stage, with shared responsibility for outcomes, the training professional can be considered a business partner.

The Training Professional as Business Partner

A trainer is a *business partner* when he or she works *with* clients rather than *for* clients to improve workplace performance. As a partner, the training professional brings a human resources skill set—knowledge of workplace demographics, organizational culture, skills for assessment and evaluation, and teaching/learning techniques—to the table. As partners, the training professional, the line manager, and often the organizational development specialist are accountable together for the introduction of new learning into the organization. This role differs from that of being a learning specialist or process facilitator. Its emphasis is on being part of a management team, helping make decisions that positively impact the organization.

In fact, some organizations are promoting the idea of a chief learning officer (CLO) or chief training officer (CTO) who would be equivalent to an executive in finance or marketing.[14] While few such positions exist in organizations today, it has been suggested that this may be because training professionals often see themselves as course providers, not part of a management team making decisions that impact the organization. As a business partner, the training professional would, like the line managers, put business results and customers first.[15] Illustration 11-1 is an interview with IBM's learning executive.

Skills for Your Ascent to CTO

Hard business skills, for proving the added value of training and for managing strategic change, are critical to gaining the support of top management and achieving the status of chief training officer (CTO).

Jack Bowsher's ascent to the CTO position at IBM was typical. "I was a businessperson all of a sudden thrust into training" is how Bowsher describes his transition from accounting and marketing to HRD. Bowsher "got into training" because he was dissatisfied with the training his staff was receiving. He was first designated marketing education manager, and later, director of education programs for IBM.

The experience of some CTOs, Bowsher predicts, will be like his own, because not all training officers will work their way up through the training function. Typically, top management views the training professional as someone who "can put on a good class but doesn't think like an executive," he says.

(continued)

The candidate for the training officer's job must be a "real leader." That calls for a set of skills that go way beyond good design or effective delivery. "A manager in the training profession who aspires to be a chief training officer needs to develop the skills required for this important new position," says Bowsher. These skills include the following:

- Developing and implementing a vision in which the training function moves from a "nice to do" activity to a "must-do" activity that affects the quality of the organization's performance and its measurable operating goals.
- Describing and using strategies to build relationships with executives, as well as with functional, line, and end-user management, to obtain support and resources for training.
- Developing a strategy to create, manage, and accelerate change.
- Directing and influencing training's effect on personnel costs.
- Promoting the role CTO's play in reengineering their organization's business functions.
- Designing and implementing a management system for all areas of training within the organization.
- Developing a leading-edge performance system to increase workforce production.

* Consistent with the overall theme of organizational learning in this text, this book uses the term "Chief Learning Officer (CLO)" to describe this position.

Source: George Kimmering. "A Place at the Top for Trainers," *Training and Development*, March 1993, pp. 44–49. The American Society for Training and Development. Reprinted with permission. All rights reserved.

Illustration 11-1 An interview with a Chief Training Officer

Concluding Comments

The trainer as change agent is a mix of learning specialist, process facilitator, and business partner. Resistance to change is as natural as breathing; change is inevitable, and resistance follows. The change agent learns what works and what does not work through trial and error. Training professionals of today are moving away from simply solving problems to helping to create the future. In involving as many stakeholders as possible in creating the future, the trainer helps everyone learn.

To ensure organizational learning, change agents think carefully about how the innovation fits into organizational goals, and once the decision is made, work

with key decision makers to ensure that needed resources are available to ensure the innovation's full implementation. They know that major innovations are usually best managed as an incremental, goal-oriented, interactive learning process, depending upon the characteristics of the innovation, adopters, and the organization itself.

Successful change agents attack a problem from several angles simultaneously. An innovative training professional supports multiple learning strategies to address learning needs at each phase of the planned change effort. Moreover, as the organization learns to use and assimilate the innovation, the change agent is extremely flexible and takes advantage of organizational learning.[16]

The need for group or team participation in problem identification, solution development, and implementation cannot be too strongly reinforced. Moreover, when changes are large scale, time needs to be built in for line managers to get involved with their employees' learning, so that new skills are not a threat and the manager learns—along with the training audience—how best to assimilate the skills into the work itself.

It may also be useful to develop additional training for managers if employee training changes *their* roles.

Summary

Previous chapters described specific job skills related to designing and implementing training efforts in organizations. This chapter goes full circle back to Chapter I, reminding you that training is all about *learning*, and that training professionals today have an organizational role that goes way beyond that of provider of instruction. Ensuring that learning takes place—that new skills are assimilated into an organization—requires skills beyond those of program development and delivery.

This chapter suggests that the training professional plays a role as a change agent, working with others in the organization to help ensure that new learning is assimilated into the organization.

A change agent needs to understand the innovation itself, the individuals who are expected to assimilate the innovation, and the organization. Rogers described characteristics of innovations, explaining that the higher an innovation scores on each of the characteristics, the more readily it will be adopted. The characteristics are its relative advantage, compatibility, complexity, trialability, and observability. He also described adopters as on a continuum from most receptive (innovators) to least acceptive (laggards). As the ultimate goal of learning is assimilation into the workplace, the training professional needs to understand that the entire organization does not change at the same rate. In addition, organizational culture is a

determinant of the rate of change. Whether an organization is traditional, consensus-driven, profit-centered, or futuristic helps the change agent determine appropriate change strategies.

Kurt Lewin explained that an organization is a sea of forces in motion. Force field analysis is a means to identify those forces. Lewin also suggested that planned change efforts go through three phases: unfreezing, changing, and refreezing. At the unfreezing phase, specific learning strategies attempt to create a felt need for change. Specific strategies include brochures, informational pieces, and demonstrations. At the changing phase, learners learn new ways to work. In this phase, instruction takes place. At the refreezing phase, the trainer works to reinforce outcomes, ensuring that new learnings are assimilated into the way work is done. Training strategies that support refreezing include coaching and hotlines, books and journals, seminars, and user groups or management councils.

As a change agent, the training professional must form collaborative relationships within the organization. The training professional can be viewed as a learning specialist, known for his or her content expertise. The training professional can be viewed as a facilitator, with skills related to helping groups solve problems. Solving problems means coming to agreement on the definition of the problem, generating ideas for problem solving, selecting the best solution, and (eventually) evaluating results. A sampling of facilitation tools—brainstorming, the storybook technique, the nominal group technique, and charting—were described. The most visible role of the trainer as change agent is when the trainer is viewed as a full-functioning member of a management team, with shared responsibilities for learning outcomes, as a business partner.

This chapter concluded with some guidelines for the training professional to consider in changing from a provider of learning services to a full functioning member of the management team. Increasingly, the trainer's organizational role is evolving away from being an instructional specialist to a being a change agent who can help the organization create its future and help everyone learn. "If any one idea about leadership has inspired organizations for thousands of years, it's the capacity to hold a shared picture of the future we seek to create."[17]

Questions

1. Why must the training professional also be a change agent?
2. Using Rogers' characteristics of innovations, compare the rate of adoption of electronic mail with facsimile equipment. Which innovation is more popular today? Do you expect changes in the future? Why or why not?

3. Using Rogers' characteristics of innovators, categorize yourself. Offer examples.
4. Why can training be misinterpreted as an attempt to interfere? What safeguards should the training professional use to ensure trust?
5. Recall some time someone tried to force some help on you. How did you feel? How did you react? What did you learn from this exercise that is applicable to delivering training programs?
6. Assume your university is implementing a voice mail registration system. Using Lewin's force field analysis approach, identify pressures and resisters for the system. What learning strategies would you recommend to minimize resistance?
7. Explain how instructional strategies are one type of change strategy. In addition to providing instruction, what other suggestions do you have for the training professional at this stage?
8. Brainstorm the issue "when is brainstorming an appropriate idea generation technique?" What did you learn from this activity?
9. Think about the last time a group you were in made a decision. Did everyone have a chance to share their ideas or did one or two individuals dominate the group? What did you learn from your experience?
10. Why is the trainer a mix of learning specialist, group process facilitator, and business partner? Of the three roles, which do you see yourself playing? Why?

Activities

1. Reread the PHH Vehicle Management Services case found in Chapter 8. First, using force field analysis, identify the drivers and resisters to changing the way training was done at that organization. Then, identify the change strategies employed, and categorize them as unfreezing, changing, or refreezing. What did you learn from this exercise?
2. Interview a training director for examples of two successful and two unsuccessful training implementation strategies. Using characteristics of the innovation, the adopters, and the organization itself and/or the three phases of planned change, analyze why the strategy worked or did not work.

3. Read case studies of successful innovations in journals such as *The Harvard Business Review, The Sloan Management Review,* and *Business Horizons.* What role, if any, did a training professional have in the change process?

Additional Readings

O'Hara-Devereaux, Mary, and Robert Johansen. *Global Work: Bridging Distance, Culture, and Time.* San Francisco: Jossey-Bass, Inc., 1994, 439 pp.

Identifies key competencies that managers need to succeed in a global workplace. Of particular interest to trainers is a model of team building for face-to-face as well as electronic meetings. A must for anyone interested in the global workplace and communications technologies.

Ray, Rebecca. *Bridging Both Worlds: The Communication Consultant in Corporate America.* New York: University Press of America, 1993, 187 pages.

A compilation of articles written by consultants offering advice on topics ranging from setting up your own training consulting practice to the types of communications training being done by active consultants. Each consultant shares insights, issues, and problem resolution ideas. A must-read for anyone considering becoming a training contractor.

VanGundy, Arthur B. Jr. *Techniques of Structured Problem Solving.* Second Edition. New York: Van Nostrand Reinhold, 1988, 386 pp.

VanGundy explains, demonstrates, and evaluates 105 tested problem-solving techniques (including those in Figures 11-4 and 11-5). Flow charts and guidelines help you understand which one is best for addressing a particular problem. This book is a classic reference book for any group process facilitator.

Endnotes

1. Michael Hammer. "Reengineering: The Mistakes and Misunderstandings." *Word Link.* Davos, Switzerland: World Economic Forum.

2. Senge, Peter. *The Fifth Discipline.* New York: Currency/Doubleday, paperback edition, 1994, p. 6.

3. Ibid., p. 585.

4. Regan, Elizabeth A., and Bridget N. O'Connor. *End-User Information Systems: Perspectives for Managers and Information Systems Professionals.* New York: Macmillan, 1994, p. 394.

5. Rogers, Everett. *Diffusion of Innovations,* 3rd ed. New York: Free Press, 1983, p. 11.

6. Ibid., pp. 248–251.

7. Ibid., p. 246.

8. Ibid., p. 247.

9. N. Dean Meyer and Associates. *GamePlan,* microcomputer-based simulation and guidebook. Ridgefield, Conn.: N. Dean Meyer and Associates, 1992.

10. Ibid., p. 233.

11. Adapted from a lecture offered by Marc Sokol at New York University, circa 1992.

12. O'Hara-Devereaux, Mary, and Robert Johansen. *Global Work: Bridging Distance, Culture, and Time,* San Francisco: Jossey-Bass, Inc., 1994, p. 122.

13. Ibid.

14. Kimmerling, George F. "A Place at the Top for Trainers," *Training and Development,* March, 1993, p. 44.

15. Ibid.

16. Quinn, James Brian. "Managing Innovation: Controlled Chaos," *Harvard Business Review.* May–June, 1985, pp. 73–84.

17. Senge, Peter. *The Fifth Discipline.* New York: Currency/Doubleday, paperback edition, 1994, p. 9.

Part Six

Trends for the Future

Epilogue

Chapters in this book have described current practices, issues, and trends related to understanding training for organizations. The training cycle—training needs assessment, design, implementation (delivery) and evaluation—was discussed in detail, with how-to's offered for each step of the cycle. In addition, this text overviewed specific training job skills such as writing proposals, providing administrative support for training programs, and facilitating change efforts. Armed with this understanding, you are now in a position to sit back and think about your future as a training professional and how the training field will evolve as you grow in your career.

Trends impacting the workplace include the flattening of the organizational structure, evolving demographics, and the globalization of business and society. Moreover, we are only beginning to see the possibilities and implications of information technology. Computer experts repeatedly tell us that we are in the midst of a computer revolution. They tell us this so often it has become almost a cliché. It behooves us to remember that clichés get that way precisely because they are so true!

We have indeed gone through a revolution in technology, with computing power roughly doubling approximately every two years or so over the past decade and a half. Computer chips have in truth become smaller, vastly more powerful, and above all so much cheaper that they can be used anywhere and in increasing numbers. The better, faster chips have been coupled with new chip materials, new manufacturing methods, and whole new computer architectures. The net result has been ever faster, less expensive, more functional, and more portable computers. These advancements, combined with new input/output technologies—voice, image, and video—absolutely guarantee more of the same: continued hardware and software development, faster and cheaper computing, a continuation of now familiar trends.

There is, however, something more. Information technology is undergoing a transformational change—not just more of the same, but a true transformation of both the technology itself and of how work is done through the technology.

This change will not simply put a more potent PC on your desk. In fact, your desktop workstation will very likely not be merely a self-contained computer at all. It will, rather, be a device which provides you with the entree to a massively powerful, world-wide, integrated network of computing and information facilities, all tailored to you and the kind of work you do.

The purpose of the following chapter is to help you paint a picture of what's coming and how all these changes will impact training. In Chapter 12, the trainer of the present is transformed into the learning specialist of the twenty-first century. Throughout this book, you have learned that while the trainer's organizational role may change, the trainer's overall goal of guiding learning in the organization remains constant. The future-oriented scenario you are about to read is designed to get you thinking creatively beyond what *is* to what *can* and *may be*. As you read the scenario, you are challenged to reflect upon the important societal and workplace trends we all face. Consider the changes that have been discussed here and in other sources as well. Think of trends such as the outsourcing of staff functions, the emphasis on wellness and controlling health costs, and the aging and shrinking of our workforce. Cluster them together with the expected information technology transformation. Consider the resultant impact on information workers. Finally, consider how the combination of computer, societal, and workplace trends will affect the world of organizational training.

Chapter Twelve

The Trainer of the Twenty-First Century

Highlights

- A vision of an evolving future for the training function
- Scenes of a likely informational and communications infrastructure
- Perspectives on the importance of just-in-time learning
- Instances of how a trainer of the future juggles work and family.
- Advice to the prospective trainer—what to do now!

A Trainer at Work in the Year 2002[1]

Meet Casey Callahan Melendez, a training professional at work in the year 2002. Numbers in the picture of Casey at her desk (Figure 12-1) match the numbered sections of the chapter. Each section explains a component of the picture. Taken all together, they add up to a prediction of the workplace of the future, with special emphasis on knowledge work and training.

Figure 12-1 Our trainer of the future, Casey, at her desk

1. Figure at Desk

Casey Melendez is a free-lance learning specialist working under contract to the Human Development Corporation (HDC). HDC has a major, multi-year contract with The Zeta Group to implement Zeta's human resource development policies. Casey reports to Charlee Jones, HDC's account manager for Zeta. Charlee's contact at Zeta is Rabindranath Somashekara (known as Sam to his colleagues). At Zeta, Sam is a senior officer, holds a seat on the organization's Management Committee, and is the firm's Chief Learning Officer (CLO).

Under contract with Zeta, HDC provides a full range of human resource development services: staff planning, succession and job mobility systems, career models, learning needs identification, individual learning plans, learning program design, learning and group process facilitation, and instructional delivery. As a matter of deliberate choice, Zeta has the evaluation of learning outcomes performed by its own internal auditors and purchases its recruiting services from an HDC competitor.

2. The Desk as a Whole

Casey's desk, with all its devices, is plugged into an information and communications infrastructure that is as widespread as its predecessor, the telephone system. The infrastructure is built and maintained jointly by a government-regulated consortium of United States telecommunications firms and linked to similar networks in other countries. Zeta, HDC, and Casey all subscribe to the network, and both Zeta and HDC have linked their private company networks to this public one, with access to each network controlled by stringent security measures. Casey's subscription to the public net gets her a personal database on it, in addition to its usual messaging and her choice of several information services (e.g., the ASTD Electronic Research Facility). Her memberships in ZetaNet and HDC's InfoMail are provided by the companies as tools for her work. Whenever Casey activates her workstation at the office or at home, she enters her personal identification code and password. The network sees the code and password as keys that unlock the electronic doors to all the data and software to which Casey is entitled.

3. The Desktop Device

This integrated device, referred to as a telecomputer, is the heart of Casey's desk and is commonplace on knowledge worker desks all across the world. The device combines artificial intelligence, a telephone, a computer, a single gateway to various telecommunications networks, a fax, a copier, a printer, a path to all the data and software for which Casey is authorized, and graphics/image technology up to and including full-motion video for both stored video imagery and interactive real-time desktop video conferencing. In addition to its messaging, e-mail, and personal productivity features, the telecomputer serves as a vehicle for a significant amount of workplace training.

The telecomputer is the major delivery platform for *Just In Time Learning (JITL)*—the training approach that makes context-sensitive learning material available on-line, in short omni-media modules, to be called up in real time—precisely when a worker needs to learn a specific something. The workstation is an automated job aid/help desk/performance support system/on-line reference tool all rolled into one. A lot of training work goes into the design, creation, and maintenance of this just-in-time material. JITL has in fact become so much a part of the workplace that the acronym has entered the language: JITL materials are "JITL-ware" or "jittleware," and using them is "jittling."

Casey's sign-on this morning brought her a video announcement from the president of Zeta to all employees concerning Zeta's acquisition of the Estes Park Ranch Resort in Loveland, Colorado. The announcement triggered an e-mail message to Casey (return receipt requested) from Charlee, copy to Sam, to contact the Estes training department to begin the process of involving HDC in its internal and customer work. Casey's desk sent Charlee the return receipt as soon as Casey read the message and at the same time set up a tickler to Casey to check completion. Charlee selected Casey for this assignment because another specialty that Casey has been developing is the use of video-based groupware as a survey tool for customer research, a process she seems to have a knack for designing and doing in non-intrusive ways.

4. Arm of Chair with Knobs/Dials

The electronic devices at Casey's desk are integrated into this control pad: volume knobs for voice devices, brightness and focus controls for screens, toggles for activating/switching between devices and/or device usage, and the like.

5. Wall Screen with Chart on It

Casey has given HDC's InfoMail a template of topics to watch for in certain publications. InfoMail's scanning software has spotted a report on the morning newswire concerning training for retirees interested in part-time work in bed-and-breakfast inns, child care, and family budget counseling. When Casey activated her desk this morning, the desk informed her that one of her research interests had a hit, and she has pulled the report summary up onto this wall screen to see if she wants to access and/or print the entire thing. Casey has made a specialty out of retiree re-training, and it is important for her to stay up with developments in this niche.

Also at this morning's sign-on, Casey's usual baker's dozen e-mail messages included one from Dwight Feeley, an HDC employee. Feeley informed Casey that he has just completed a publicly available training program in intermediate air conditioning mechanics. This was a program of his own choice which he took on his own time via satellite hookup to his home TV and computer, all at his own expense,

and with no real connection to his HDC job as a customer inquiry representative. Feeley asks Casey to certify that he has learned air conditioning well enough to enable him to be considered for posted air conditioning jobs at the HDC headquarters complex. (One of Casey's internal HDC assignments is responsibility for technical learning of all sorts.) The second half of Feeley's e-mail asks Casey to assist him in evaluating advanced air conditioning training for his future use.

Casey has seen clear growth in this sort of client request—the certification of learning achieved and the evaluation/selection of training desired. More often than not, such requests pertain to situations where the learning specialist has played no part in the design or delivery of the training in question. This type of client need has grown dramatically as learning programs of all sorts have proliferated in the virtually bottomless sea of material that has become available through the growth of worldwide information networks.

6. Wall Screen with Writing on It

As part of HDC's continuous learning needs analysis within Zeta, Casey is running an electronic Focus Group, on-line with seven mid-level Zeta managers to discuss performance management. The eight people in this morning's session are physically located in four different cities, three in the U.S. and one in Switzerland. (K.K. Cheung, Zeta's operations manager in Shanghai, is also part of the Focus Group, but is not on-line now because of the 13-hour time-zone difference between himself and most of the group; he will see/hear the entire Focus Group session at his desk when he logs on to the network tomorrow and will be able to add his thoughts at that time.)

The group has agreed at this point that the problems they have with the performance management issue are not because of a skill deficiency on the part of their supervisory staffs, but are due rather to a weakness in Zeta's standards for performance feedback. They have each accessed Zeta's *Management Practices Manual,* part of the electronic library of manuals maintained on-line at corporate headquarters, and have printed the manual's three relevant pages at their desks. The group has faxed back and forth to each other several scribbled marginal notes on the standard. They are now discussing how best to get a modification made to Zeta's corporate standard, and how in the meanwhile to manage a more productive performance management process in their own units.

7. Casey's Sweatsuit and Towel

Casey's HDC contract contains a penalty clause for weight gain and a bonus clause for fitness maintenance and/or increase. She is working assiduously to earn that bonus. If both she and her husband, Cruz, earn their incentive bonuses, they will have the money for a summer rental on a nearby lake. (Cruz is the Financial Controller at a local municipal hospital.)

8. Doorway into Next Room

Casey rents her desk by the hour at the Bartlett Workcare Center, a small office complex located in a campus setting about 20 minutes from her home. The Center is a private business that provides (a) day care for children and elderly relatives, and (b) work facilities for knowledge professionals like Casey. Many of the elderly relatives serve as staff (some paid, some unpaid), helping with childcare and office chores of various kinds. The Center's office facilities included the electronic desk at which Casey is sitting as well as meeting rooms, classrooms, group video conferencing facilities, full-scale graphics/printing capabilities, a gym, and a cafeteria. Casey, like most of her peers, works two or three days a week at home, where her personal workstation is a powerful but somewhat less fully equipped one than the Center's, and two or three days a week at the Bartlett Center or others like it. At a center she can also meet as needed with colleagues and/or clients from HDC, Zeta, or other companies with which she has contracts. It is only on relatively rare occasions—usually when she is delivering instruction—that she is physically present at HDC or client offices.

9. Wastebasket with "FEA" Brochure

Casey's HDC contract provides a Family Education Account (FEA), a fund into which Casey contributes money tax free and which HDC matches. The money in this account remains tax free as long as it is used for educational purposes by Casey or the members of her family. Casey and Cruz are planning to use the money for their children's college education, less the funds used for Casey's mandatory annual program of twelve days of training. (Casey and her supervisor jointly select the content.) Casey and Cruz each get a menu of possible benefits from their employers, some of them government mandated, and are able to select the mix from the two sources that best suits their family situation and lifestyle.

10. Electronic Clipboard

Last week, Casey travelled to HDC headquarters in Salt Lake City for the company's annual Learning Conference, an event that is part education, part recognition, part personal networking, and is mandatory for all HDC Learning Specialists Level XII or above. To handle the logistics of her trip, Casey called on a feature of her desk's artificial intelligence, a *software agent* or *knowbot*. She gave the knowbot her trip parameters (destination, departure and return dates), and the knowbot then accessed HDC's preferred on-line vendors and made all the arrangements: flights, hotel, car rental—all with Casey's dietary, seating, airport and frequent flyer preferences taken into consideration. Today, the knowbot has retrieved the proper travel and entertainment expense form from HDC's on-line library and made the form available on Casey's electronic clipboard. A light pen will allow Casey to fill in items by hand, with the clipboard doing the necessary calculations

and verifying her signature. The completed form will be routed electronically to Charlee for her approval signature and will then travel by InfoMail from Charlee to HDC Accounting. Funds to reimburse Casey for her out-of-pocket expenses will be electronically deposited in the bank account Casey has specified, and the system will send her an e-mail note to let her know that the deposit has been made.

An Enterprise-Wide Learning Infrastructure

We are not yet in the work environment in which Casey finds herself, and we will not get there overnight, but we are certainly moving in its direction. Certain overall trends and issues are apparent in the scenario pictured here. Chapter I of this book described training efforts as strategic, informational, and operational. No matter what type of training is needed in the networked organization, everyone will be able to share a wide variety of learning resources and will be expected to be be a learning resource him/herself to others. Communications technologies will allow change agents to respond to evolving forces and continually provide learning experiences that can help the enterprise grow. Powerful, versatile technology will provide an information infrastructure in support of the organization's constant need to manage change and to learn. It will also offer great flexibility, a wide range of options, as to where employees physically work and how they are able to manage their personal and work lives.

Versatile Information Systems

Because of the increased power of computers and the growth in the capacity to transport vast amounts of information, technology will continue to integrate into vast global networks with access for hundreds of thousands of people.[2] Information is increasingly available in many and mixed formats: data, text, voice, image, and video. Futurists have termed the device that supports all these media the *telecomputer*, which can be described in today's terms as part computer, part telephone, and part television. Users of the computing resources of tomorrow will have networked, interactive telecomputer workstations though which they can function as processors, consumers, and transmitters of information. In *Life After Television*, George Gilder explains how the telecomputer will promote more personal systems, enhancing personal creativity.[3]

In the scenario pictured in this chapter, Casey's desktop device furnishes an entry into computing systems, telecommunications networks, and data bases. Her workstation provides any number of means to input and output information. It is tailored to her work and personal needs, ranging from knowing which data bases are useful to her, to providing her a means to communicate with her clients, to enabling her to deliver training services to them.

The Increased Flexibility of the Workplace

Just as technology is becoming more adaptive to personal needs, so is the workplace. The trainer of the future will be working in organizations that increasingly support the particular needs of individuals. Telecommuting, satellite work centers, and outsourcing will be commonplace. Such flexibility will dramatically impact not only who does work, but how and when it is done. These trends are important to the training professional on several levels. First, the trainer him/herself will be impacted by them personally, working in news ways, under new rules, with new options. Second, providing training services to a dispersed workforce will offer new challenges for remote learning support—needs assessment, solution design, implementation/delivery, and the evaluation of outcomes. Third, people will need to learn new skills to work effectively in a dispersed, distributed workplace—a need particularly urgent for those who manage work in such a workplace.

Telecommuting is the concept that a person can work at home, using a terminal connected to an office computer via a communications line, often a normal telephone line. No one knows how many telecommuters are in the workforce today; estimates range from 16.8 million[4] who work at least part-time at home to a survey that found only 5,000 people who were working full-time at home.[5] Telecommuting is seen as a potential means of employing/retaining valuable skills by helping workers balance work and home demands as well as reduce commuting costs and time.

In the picture painted by this chapter, Casey Melendez worked part of the time as a telecommuter, from her home, and part of the time at a *satellite work center*. A satellite work center is a compromise between telecommuting and traditional, full-fledged commuting to the office. The satellite centers are usually fully equipped technical facilities. Note that Casey's Work Center serviced multiple companies and a variety of knowledge professionals. It also offered child and elder care as well as a wide range of other social and health-related services.

Outsourcing is the practice of contracting out responsibility for part of an enterprise's operation. In our scenario in this chapter, the Zeta Group outsourced its training and development activities to the Human Development Corporation (HDC). Casey was a free-lance (independent) training consultant hired on a contract basis by HDC. Note, too, that the Zeta Group deliberately outsourced its recruiting services to a different subcontractor, an HDC competitor. Enterprises are finding that outside contractors can often do the job faster, better, or less expensively than an in-house, full-time staff. More importantly, outsourcing selected responsibilities allows an organization to concentrate fully and exclusively on its core business/professional concerns. The practice of outsourcing is increasingly common in the world of the flattened, networked organization.

Putting Trends and Issues into Perspective

To sum up the trends described in this chapter and the likely future to which they are leading us:

- ➢ Your desktop workstation will be an intelligent device tailored specifically to your job and your interests, both professional and personal. The ergonomically designed workstation will support text and numeric data, printing, image and communications technologies, graphics, full-motion video, and two-way sound. You can expect multiple devices integrated at the level of desktop control at the very least.

- ➢ The workstation will be your entree to a rich matrix of information and computing facilities. The network will "know" you and the data and the software for which you and your work are authorized. Knowbots, research templates, on-line libraries, and warehouses of forms and manuals will be routinely and readily available. The desktop will be a major delivery vehicle for electronically-based learning material.

- ➢ Electronic-mail, electronic bulletin boards, and groupware will enable you to contact and work with friends, colleagues, customers, subordinates, and bosses across the boundaries of organization, time, and geography. A general description for this network of information and knowledge-work tools is "any to any." That is, on an any-to-any network, *any* one can use *any* workstation in *any* location to get at *any* data or *any* software or *any* application for which s/he is authorized.

- ➢ The workplace itself will be flexible and supportive of a very diverse workforce with a wide variety of needs in terms of how and where work gets done. Wellness will be explicitly encouraged in an effort not only to keep health expenses down, but also keep productivity up.

A Myriad of Driving Forces for High Quality Learning Support

Environmental forces, including changing demographics, the globalization of work, and new technologies have resulted in the requirement that all employees have learning opportunities to acquire or enhance the skills needed to maintain the company's and our society's competitiveness. Unions, as well as the federal government, are increasingly involved in ensuring continuing education options. The United Auto Workers, for example, won a $20 million retraining fund as Ford Motor Company revised its Human Resource Management policies. The union agreement was later expanded to include managerial personnel.[6] Similarly, the federal government is considering legislation that would require all business organizations to invest a minimum percentage of total payroll in employee training.

Today, as well as in the near future, employees have any number of options available to them for continuing education. In the Casey Melendez scenario, Dwight Feely had completed a training program completely outside the purview of his company's training resources. Casey's department did not deliver—or even know of—Dwight's training program. Her department was nevertheless expected to furnish competence measurement to certify that specific skills had been mastered by Dwight. Moreover, workers are increasingly less likely to be tethered to an organization for life. Individuals will therefore be taking fuller charge of their own learning needs, designing and managing their own careers. To do this, they will choose from a myriad of learning options including, but not limited to, training furnished by their organizations. Other learning resources such as programs on the Internet or on CD's will be increasingly available. So also will be courses at community colleges, universities, and private training companies—accessible either physically or remotely through teleconferencing. Organizational training departments will continue to design and develop traditional training programs, but they will also work with individuals, unions, schools, and universities to become clearinghouses of learning opportunities.

What Should I Do?

Given this new world aborning, what does today's trainer need to do? The one thing you really cannot do is think that you can ignore the massive changes taking place in the world of work and the world in general. Consider the following as you prepare yourself for the training field of the twenty-first century.

- For starters, you will want to be computer literate. Georges Clemenceau, a French diplomat in the period following World War I, remarked that war had become too important to leave to the generals. Similarly, technology has become too important to leave to the technicians, and computer literacy is a genuine must for the trainer of today and the future. On the other hand, this does not mean you need to become a computer scientist. Computer literacy should mean what literacy has always meant—an appropriate degree of fluency in a particular medium. Consider the level of literacy you have concerning home appliances. Most of us simply know how to use them. We do not design or repair them, and know little or anything about what makes them work. The same thing holds for computers and networks. The degree of literacy necessary, of course, will be dictated by your work; some settings will require more of it than others. However, you can in general expect work to be significantly more information technology–centered than it is today.

- Rosabeth Moss Kanter is a university professor who wrote a book with an evocative title, *The Changemasters* (see suggested readings). Professor Kanter is exactly right: you must become a master of change. Change is indeed a constant, another cliché that cannot be ignored. Furthermore, its frequency curve continues to climb and its impact widen. Technology is but one cause, and may not even be the most important. None of us can escape the inevitability of having to deal with change, and the trainer can further expect to be called on to help others do so, as well as deal with it personally. Thus, change should be seen as one more medium in which fluency is required for the trainer, to the point of mastery.

- ASTD—The American Society for Training and Development—frequently publishes information on trends and best practices in training. The fiftieth anniversary of ASTD's *Training and Development* magazine, May 1994, covered the past, present, and future of learning in the workplace. This special issue includes survey data on 36 trends affecting learning in the workplace and predictions from noted experts on the future of training. An article in the December, 1994, issue of *Training and Development*, called "Reinventing the Profession," looks at future options for trainers. These articles, and other materials that ASTD publishes, are filled with ideas and suggestions that trainers can use to measure their own work, plan their own development, and keep themselves up to date and well positioned for the future. ASTD's national office (and all its research) is located at 1640 King St., Alexandria, Virginia, 22313. The phone number is (703) 683-8100. Appendixes A and B include a listing of this and other useful resources.

- Above all , the skill that is key to success in the Information Age is a fourth "R" added to the three "R's" of traditional literacy: Reading, 'Riting, 'Rithmetic, and *Re-learning*. Re-learning means the ability to unlearn the old and learn the new, as often as needed. As a training professional you will be expected to develop your own re-learning strategies and at the same time facilitate learning, un-learning, and re-learning throughout your organization.

Summary

This chapter offered a glimpse of a training specialist at work in the twenty-first century. Its premise is that in step with all the projected societal trends and

new technologies, the job of the learning specialist will continue to be to support learning throughout his/her organization. Sophisticated information technologies will put required knowledge at our fingertips precisely when needed and help us deal efficiently with matters of administration. Computer literacy will thus be an essential tool of the workplace, but such literacy will be just a beginning, merely a tool. As has always been the case, the knowledge worker of the future, learning specialist or otherwise, will need to have an inquiring mind, will have to be a person ready to learn continually and adapt constantly to new knowledge and new ways of doing things. While specific job skills will be important, knowing *what* to do and *why* will, as always, be far more important than knowing *how*.

In the face of all the changes of our times, the old saying still holds true: the more things change, the more they stay the same. Thus, the job of the learning specialist in the twenty-first century will be done with new tools, in new contexts, and under new assumptions. It will nevertheless continue to be that of ensuring that the right people learn the right things at the right time and in the right priority order—this is and will remain what effective training for organizations is all about.

Questions

1. Assume you are a trainer at a large insurance company and a member of the American Society for Training and Development. An upcoming ASTD program involves a round-table discussion of several topics, including information systems technologies of the future. Because of your expertise, you have been asked to lead the discussion on technological trends.

    a. What are the major trends expected?

    b. What problems may trainers face as organizations implement the technologies?

    c. Which of the technologies that you identified do *you* believe will have the largest impact on the trainer of the future?

2. What benefits do work-at-home and work centers offer employees and employers? What are the pros and cons? Do you believe that the number of organizations offering such flexible workplaces will grow? Why? Why not?

3. Discuss the concept of just-in-time learning (JITL). What forces are pushing for increased JITL?

Applications

1. Prepare a two-page report on current developments in video conferencing. Conclude your report with a short essay on how the developments may impact how training is offered in the future.

2. Draw pictures of you sitting at your work desk today and in the year 2010. Compare your pictures. Then share your pictures with your classmates. What technologies did individuals in your group develop that went beyond the scope of this chapter?

3. Read (a) the special issue of *Training and Development*, published in May, 1994, concerning the future of workplace learning, OR (b) the December, 1994, article on "Reinventing the Profession," OR search the last 12 issues of *Training and Development.* Summarize this information and bring it to class for discussion, with special attention as to how trainers should prepare for the future.

Suggested Readings

Kanter, Rosabeth Moss, *The Changemasters: Innovation for Productivity in American Corporations.* New York: Simon and Schuster, 1983. 432 pp.

Kanter argues compellingly and at length that the single most important skill organizations need to master for our time is that of managing change. Otherwise, she insists, the productivity gains necessary to be effective and competitive in the global marketplace will not be attainable; certainly not sustainable.

Katzenbach, J. R., and D. K. Smith. *The Wisdom of Teams: Creating the High-Performance Organization.* Boston: Harvard Business School Press, 1993. 291 pp.

The premise of this book is that companies are increasingly relying on teamwork. The book is full of stories and case examples involving real people in team situations. Team members describe accomplishments and insights that give evidence to the power of teams.

O'Hara-Devereaux, Mary, and Robert Johansen. *Global Work: Bridging Distance, Culture, and Time.* San Francisco: Jossey-Bass, Inc., 1994.

Two researchers from the Institute for the Future describe innovative practices found in global organizations such as American Express, Apple Computer, and AT&T. The authors identified key competencies that mangers will need to succeed in a global workplace. Of special interest to trainers is the section on process facilitation of groups in remote locations.

Schrage, Michael. *Shared Minds: The New Technologies of Collaboration.* New York: Random House, 1990, 227 pp.

The author says that two heads are better than one, and that in virtually every creative endeavor from art to entertainment (to writing a textbook), collaboration is the fundamental force. Schrage explores the roles of tools and technologies in shaping the collaborative process. This book is a must-read for twenty-first century knowledge workers.

Endnotes

1. A version of this chapter originally appeared as an article by Chester Delaney in *Training and Development Journal* (March, 1991, pp. 45–49), the magazine published by the American Society of Training and Development (ASTD.) The essay has been modified and updated for use here with ASTD's permission.

2. Regan, Elizabeth A., and Bridget N. O'Connor. *End-User Information Systems: Perspectives for Managers and Information Systems Professionals.* New York: Macmillan/Prentice-Hall, 1994, p. 617.

3. Gilder, George. *Life After Television.* Knoxville, Tenn.: Whittle Direct Books, 1990, p. 20.

4. Kristensen, Kathleen. "Workplace in Transition," *Fortune*, May 21, 1991, pp. 145–151.

5. Gite, Lloyd. "The Home Based Executive," *Black Enterprise*, January, 1991, pp. 63–65.

6. London, Manuel, and Emily Bassman. "Retraining Midcareer Workers for the Future Workplace," in *Training and Development in Organizations*, edited by Irwin Goldstein and Associates, San Francisco: Jossey-Bass, Inc., 1989, p. 357.

Appendix A

Selected Organizations

American Association for Adult and Continuing Education
1101 Connecticut Avenue, Suite 700
Washington, DC 20036
(202) 429-5131

American Council for Distance Education and Training
c/o Cognitive Systems Technologies, Inc.
16414 San Predo, Suite 680
San Antonio, TX 78232-2246
(210) 545-2128

American Society for Training and Development
1640 King St., Box 1443
Alexandria, VA 22313
(703) 683-8100

Association for Computer Application Trainers
4938 Central Avenue
Charlotte, NC 28205
(800) 476-0881

Association for Educational Communications and Technology
1025 Vermont Avenue., N.W., Suite 820
Washington, DC 20005-3516
(202) 347-7834

International Federation of Training and Development Organizations
c/o The Managers' Mentors, Inc.
2317 Mastlands Drive, Suite A
Oakland, CA 94611
(510) 531-9453

National Business Education Association
1914 Association Drive
Reston, VA 22091-1596
(800) 759-6232

National Society for Performance and Instruction
1300 L St., N.W., Suite 1250
Washington, DC 20005-4107
(202) 408-7969

Office Systems Research Association
Southwest Missouri State University
Administrative Office Systems
901 S. National Avenue
Springfield, MO 65804-0089
(417) 836-6319

Society for Applied Learning Technology
50 Culpepper Street
Warrenton, VA 22186
(703) 3347-0055

Society for Human Resource Management
606 North Washington Street
Alexandria, VA 22314-1997
(703) 548-3440

Appendix B

Selected Publications

Please note that those publications marked with an* [asterisk] are, at the time of this writing, free to those who meet the occupational criteria of the journal or magazine.

The American Journal of Distance Education
Penn State University
College of Education
403 S. Allen St., Suite 206
University Park, PA 16801-5202
(814) 863-3764

Career Development Quarterly
National Career Development Association
5999 Stevenson Ave.
Alexandria, VA 22304
(703) 823-9800

Creative Training Techniques
Lakewood Publications, Inc.
50 South Ninth Street
Lakewood Building
Minneapolis, MN 55402
(616) 333-0471

Educational Technology
700 Palisade Avenue
Englewood Cliffs, NJ 07632
(201) 871-4007

Educational Technology Research and Development
Association for Educational Communications and Technology
1025 Vermont Avenue, N. W., Suite 820
Washington, D.C. 20005-3516
(202) 347-7834

Human Resource Development Quarterly
Jossey-Bass, Inc.
350 Sansome Street
San Francisco, CA 94104
(415) 433-1767

Human Resource Management
John Wiley & Sons for the
School of Business Administration
The University of Michigan
Publisher, Professional, Reference, and Trade Group
John Wiley and Sons
605 Third Avenue
New York, NY 10158
(212) 850-8832

INFO-LINE
American Society for Training and Development
PO Box 1443
Alexandria, VA 22313
(703) 683-8100

Journal of Computer-Based Instruction
Association for the Development of Computer-Based
Instruction Systems
1601 W. Fifth Avenue, Suite 111
Columbus, OH 43212
(614) 487-1528

Journal of Instruction Delivery Systems
Learning Technology Institute
50 Culpepper Street
Warrenton, VA 22186
(703) 347-0055

The Microcomputer Trainer
Systems Literacy Inc.
PO Box 2487
Secaucus, NJ 07096-2487
(201) 330-8923

Office Systems Research Journal
Office Systems Research Association
Southwest Missouri State University
Administrative Office Systems
901 S. National Avenue
Springfield, MO 65804-0089
(417) 836-6319

**Presentations: Technology and Techniques for Better Communications*
Lakewood Publications, Inc.
50 South Ninth Street
Lakewood Building
Minneapolis, MN 55402
(616) 333-0471

**Technical Horizons in Education Journal*
150 El Camino Real, Suite 112
Tustin, CA 92680-3760
(714) 730-4011

Technical and Skills Training
American Society for Training and Development
PO Box 1443
Alexandria, VA 22313
(703) 683-8100

TechTrends for Leaders in Education and Training
Association for Educational Communications and Technology
1025 Vermont Ave., N.W., Suite 820
Washington, DC 20005-3516
(202) 347-7834

Training and Development
American Society for Training and Development
1640 King St.
Alexandria, VA 22313
(703) 683-8100

Training Directors' Forum Newsletter
Lakewood Publications, Inc.
50 South Ninth Street
Lakewood Building
Minneapolis, MN 55402
(616) 333-0471

TRAINING Magazine
Lakewood Publications, Inc.
50 South Ninth Street
Lakewood Building
Minneapolis, MN 55402
(616) 333-0471

**Workplace Network News*
Office of Vocational and Adult Education
US Department of Education
Room 4429, Switzer Building
400 Maryland Avenue, S.W.
Washington, DC 20202-7240

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TRAINING FOR ORGANIZATIONS

Training is a crucial function in any organization. Today's training professional plays a variety of roles-including needs assessor, instructional designer, adult instructor, performance coach, project manager, administrator, and savvy business person. In Training for Organizations, the authors emphasize important theoretical foundations such as adult learning theory, group behavior, and planned change. This book is a "must read" for every practicing and aspiring professional.

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- **Highlights** are used to focus on key points in each chapter.
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- **Applications** include activities for training issues and suggestions for research.
- **Additional Readings** are provided for each chapter – many are annotated.
- **Appendixes** consist of a list selected professional organizations and scholarly journals for training professionals.

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